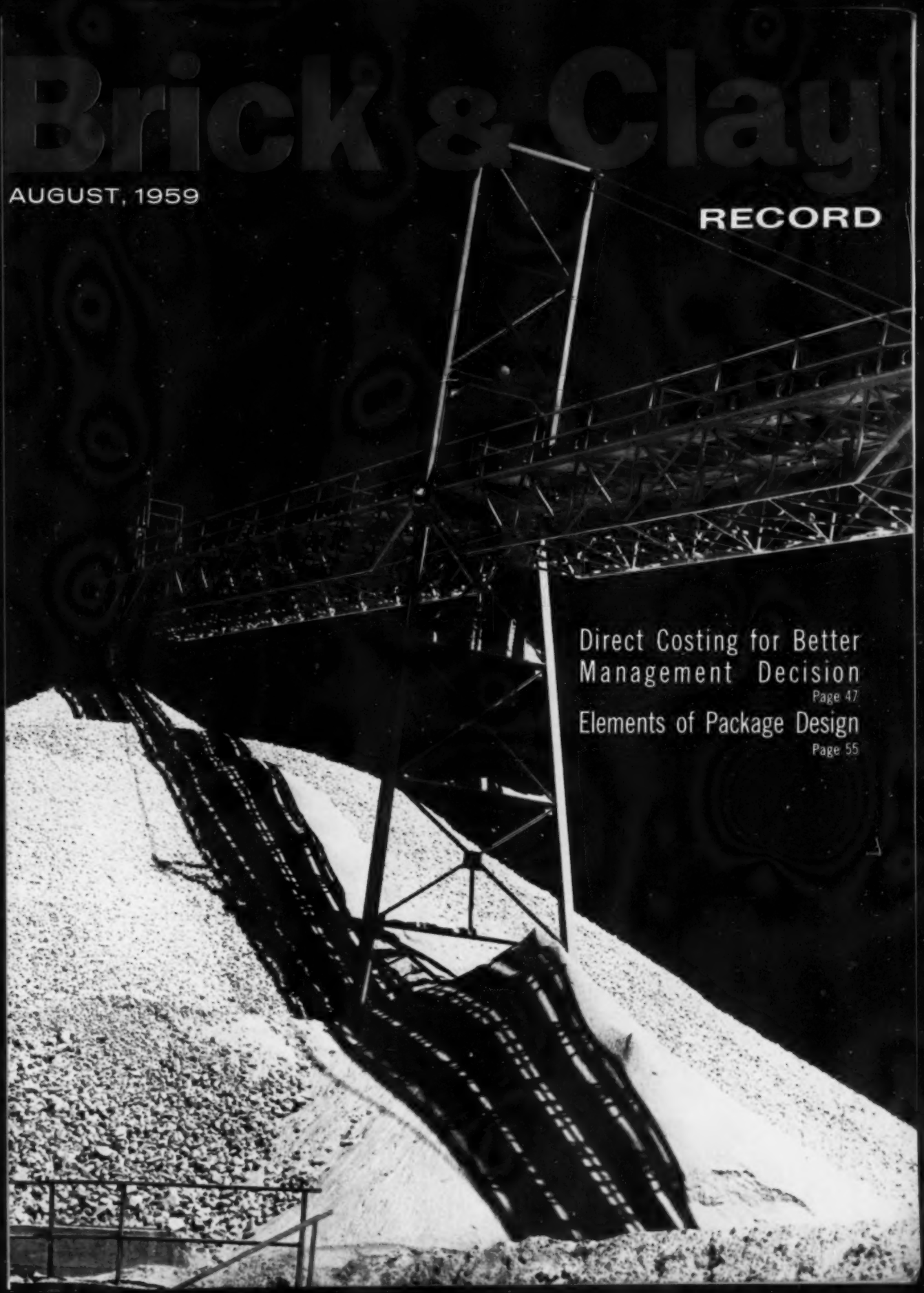
Brick & Clay

AUGUST, 1959

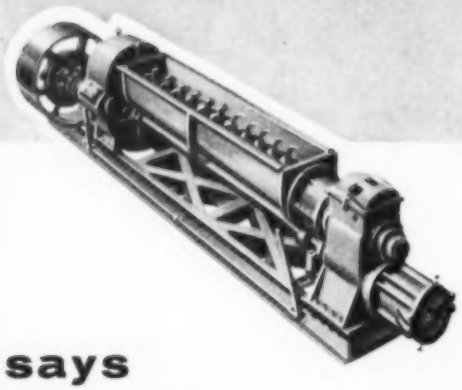
RECORD



Direct Costing for Better Management Decision
Page 47

Elements of Package Design
Page 55

"Wonderful Workhorses,"



says

ALTON BRICK

- management
- production
- maintenance

in reporting on BONNOT units at Maryland Heights Plan

—PRODUCTION OF MORE THAN 50,000,000 BRICK WITHOUT ANY DOWN TIME EXCEPT FOR REPLACEMENT OF NORMALLY WEARING PARTS.

—GRINDING OF NEARLY 2,000,000 TONS OF SHALE AND STILL GOING STRONG

These are two big reasons behind the title of "wonderful workhorses" bestowed on a Bonnot Greyhound Extruder and a Bonnot 10-foot Dry Pan by the management-production-maintenance supervisors at the Maryland Heights Plant of the Alton Brick Company in St. Louis, Mo.

Experience with the Bonnot Dry Pan covers 20 years—over 5 with the Bonnot Extruder. In addition to profitable dependability for maintaining rugged production schedules, the Bonnot Greyhound is completely satisfactory with either steam or oil dies—for all sizes of brick. With the Bonnot Greyhound, Alton shale is processed more accurately because it's practical to hold a higher vacuum . . . operating efficiency is increased because of easy accessibility of "wearing parts."

Bonnot engineers and machines will provide the same manufacturing economies for your plant. At Bonnot, your problems will get prompt attention, with the accuracy of the answers based on know-how gained by more than 70 years of service to leading clay processors throughout the U. S. A. Call, wire or write today . . . for greater profits during "the Soaring 60's"!

PLANT MANAGER M. P. HALL CHECKS THE BONNOT "ABSOLUTE GAUGE" (CONTROL) WHICH HE FINDS EXTREMELY VALUABLE IN PRODUCING THE QUALITY-TEXTURED RED BRICK FOR WHICH ALTON'S MARYLAND HEIGHTS PLANT IS FAVORABLY KNOWN.

PRODUCTION MANAGER TED SCHUTTENBERG (LEFT) JOINS PLANT MANAGER HALL AFTER A "QUICK CHANGE" FROM STANDARD TO NORMAN DIE ON "THE BONNOT WORKHORSE."

DRY PAN OR EXTRUDER, BONNOT MACHINES GET AN "AROUND THE CLOCK VOTE OF CONFIDENCE" FROM ASST. SUPERINTENDENT RUSS RICHARDSON, WHO REPORTS BONNOT EQUIPMENT "EASIEST TO HANDLE" IN HIS MANY YEARS OF CLAY-PROCESSING EXPERIENCE.

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CANTON 2, OHIO

CRUSHERS	AUGER MACHINES	
HAMMER MILLS	VACUUM MACHINES	
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WET PANS	PUG MILLS	REPRESSES
GRINDERS	SPECIAL MACHINES TO ORDER	DIES
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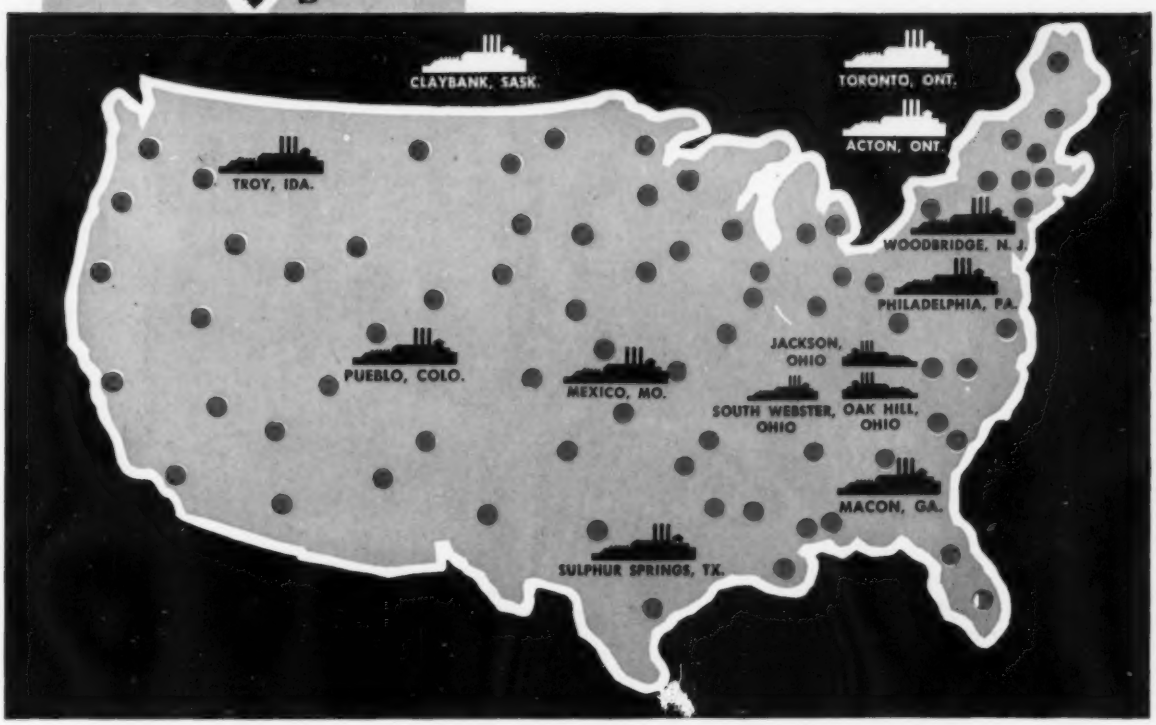
A. P. GREEN PLANTS and warehouse stocks conveniently located to save you down time and shipping costs



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Warehouse stocks in principal cities

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- **Maintain Steady Production . . . reduce down time waiting for materials.**

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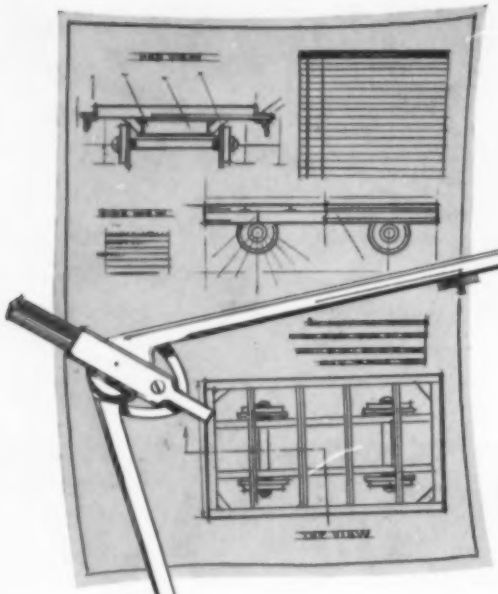

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Miller Kiln Cars feature sturdy all welded construction; Timken Tapered Roller Bearings, two units per wheel; plus an exacting design and construction technique that builds into each kiln car many years of Miller engineering experience and excellence.

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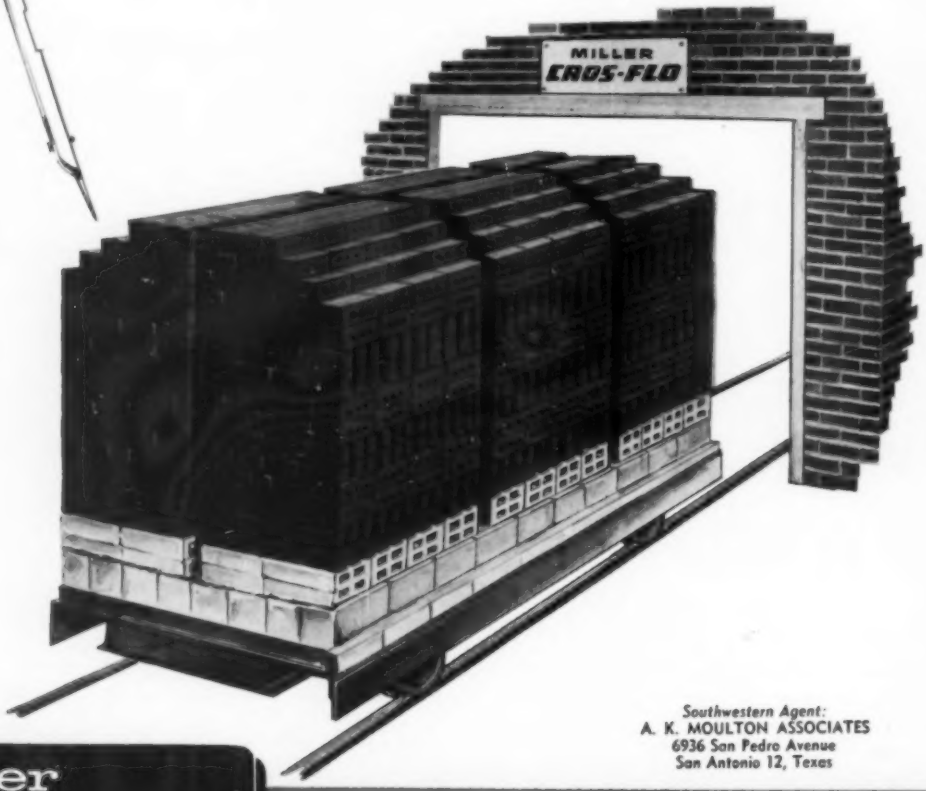

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LEADING CLAY JOURNAL OF THE WORLD

Brick & Clay RECORD

August, 1959 Vol. 135. No. 2

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Features

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Pipe Handling at Dickey's Pittsburg, Kansas Plant 45

How planning can reduce rehandling of pipe, cutting costs and damage to ware.

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The second in a series describing America's Ceramic Schools.

The Economics of Packaging 55

A discussion of the factors that control the selection of packaging shapes, sizes and methods for any producer.

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THIS MONTH'S COVER—This photo was taken at one of the Kaiser Aluminum & Chemical Corp. plants producing basic refractories. The stockpile of raw dolomite awaits further processing and grinding before being fed to the three rotary kilns at the Natividad plant for converting to the final product.

THE MAGAZINE OF

Brick—Drain Tile—Structural Tile—

Clay Aggregate—Terra Cotta—Roofing Tile

Refractories—Clay Pipe

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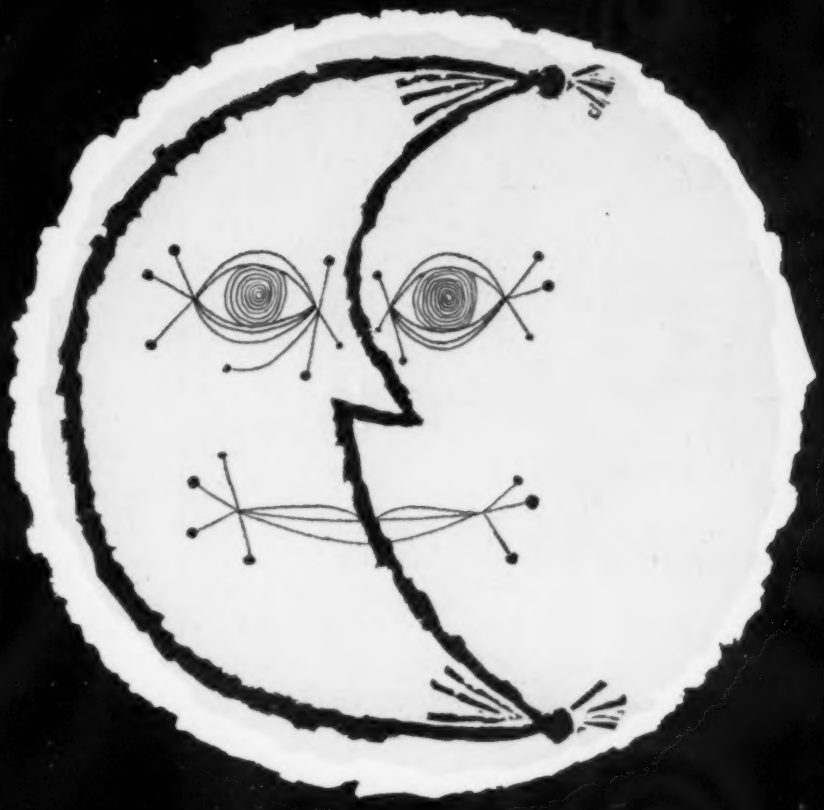

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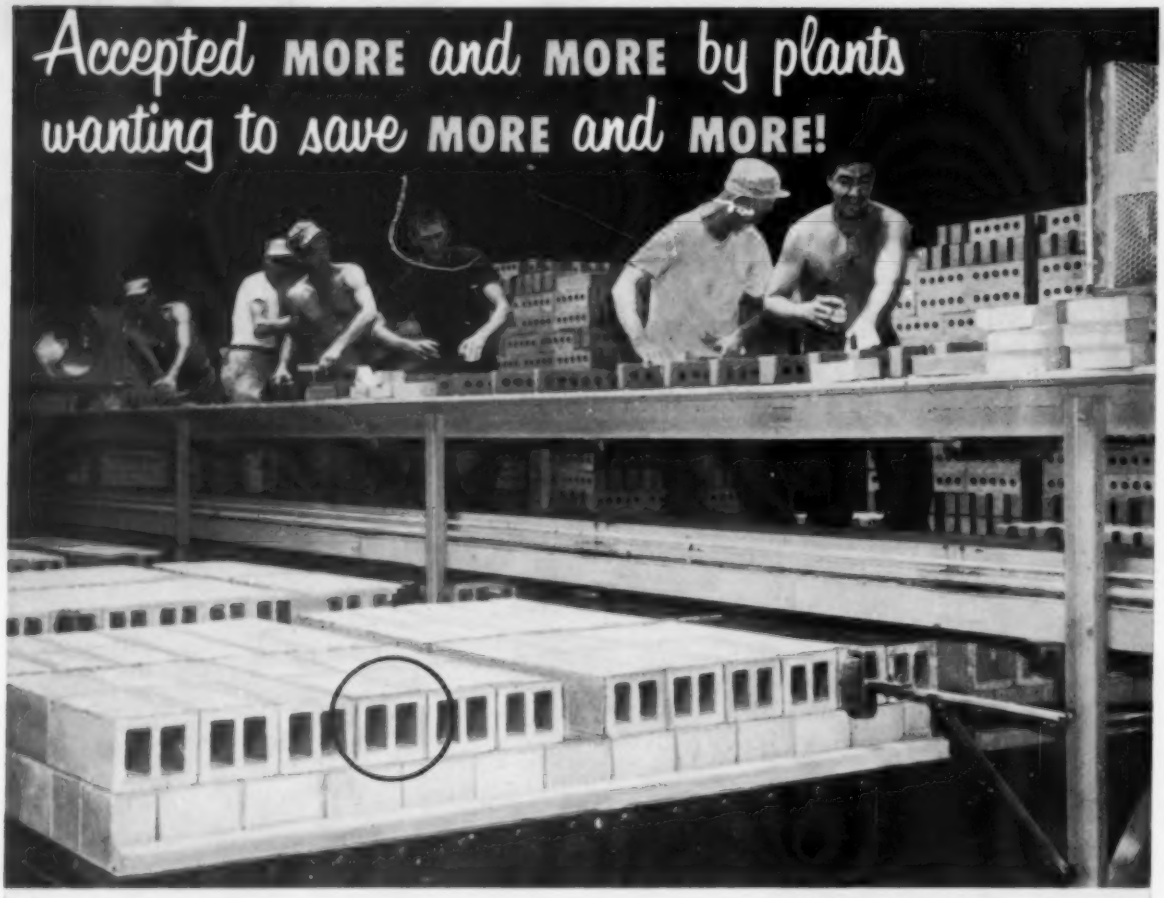

PHOTO—Cloud Ceramics No. 2 Plant, Concordia, Kansas. This modern plant uses 7" x 8½" x 19½" PACO car tops on top deck; 4½" x 8½" x 8¼" PACO car tops, with light weight insulation, for perimeter.

PACO CAR TOPS

More and more tunnel kiln brick producers are finding they can reduce car top replacement costs as much as 50% with PACO! And, here's why PACO car tops last longer. They are made from the mineral pyrophyllite, a superior raw material. The result is a stronger, lighter weight car top that is highly resistant to thermal shock. PACO car tops do not have a softening point below actual fusing point, providing greater resistance to hot load deformation. The result is better, more efficient production. They are easy to handle and install, and simple to replace individually as needs.

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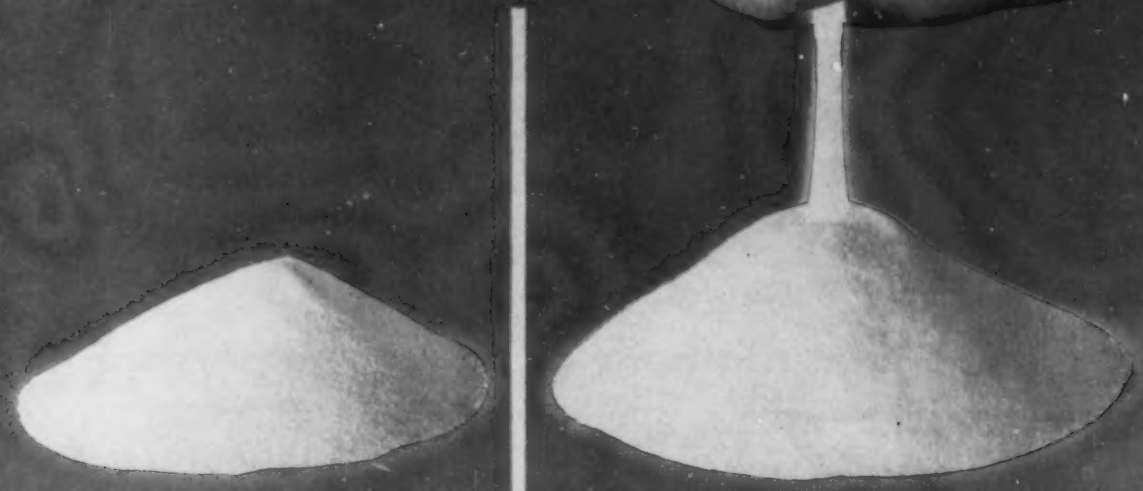
By using either a little or a little more Superpax A, you can effect substantial savings. It works two ways:



a little . . .

Using a lesser amount of Superpax A, you can obtain opacity equal to that of other brands. This means that your actual cost for Superpax A can be considerably lower than that for ordinary opacifiers.

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By using the extra hiding power of up to 50% more TAM opacifier than normal, it is often possible to reduce rejects by as much as 20%. This saving far exceeds the cost of the additional opacifier used.

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Improve workability of clay with Additive-A* clay conditioner

It's much easier to handle ware that comes from the extruder when Additive-A is added at the pug mill. And the clay bar flows evenly, is denser, more plastic and better formed with good, square corners. Damage at this stage is lessened. That's why more and more fine brick manufacturers are using this top-grade clay conditioner.

Extra benefits of Additive-A are: Aids water penetration • Cuts dryer loss • Permits more even temper • Controls scumming • Increases dry green strength • Increases green plastic strength • Upgrades the quality of all ware.

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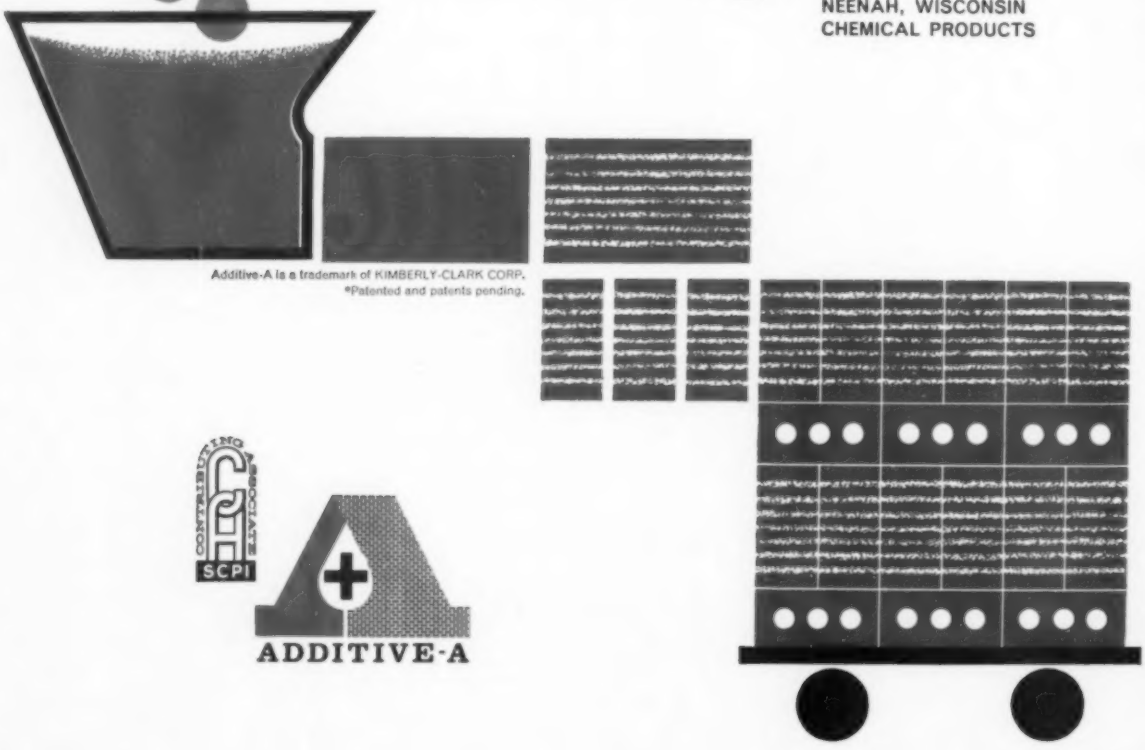

Additive-A is a trademark of KIMBERLY-CLARK CORP.
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Architects and builders want *new* colors on brick. Now you can supply them easily, profitably. New, different Drakenfeld Sand Colors...

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...can add salesmaking attractiveness to your brick at an average cost of only $2.50 per 1000 bricks. (Cost may vary from $1.00 to $4.00, depending upon type of sand and desired depth of color.)

Here's how to do it: Get a supply of Drakenfeld Sand Colors. Mix 2% to 8% color—a little goes a long way—with your dry sand. Then embed the blend in the wet brick with your sand blast machine. No change in processing required. No color drying time needed. Your brick can be face set immediately.

New Drakenfeld Sand Colors do not segregate in the mix, are truly bright, and adhere solidly. They can also be applied in sand mold and sand roll-on processes.

Drakenfeld offers a variety of other consistently uniform coloring materials—glaze stains, glaze specks, prepared glazes, engobe stains – to suit every process. We welcome your inquiry.

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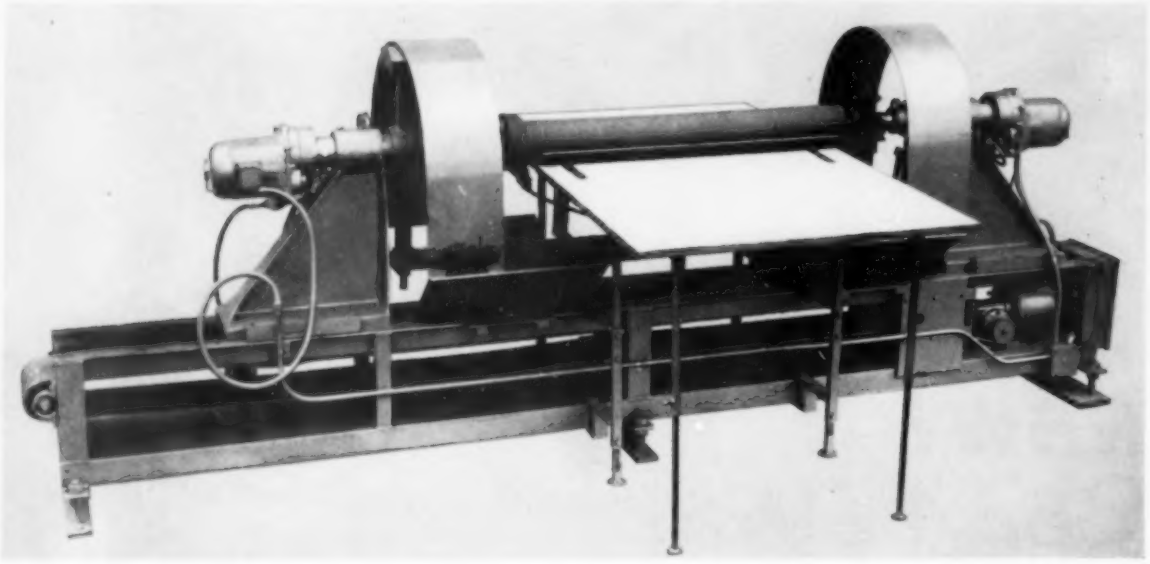
95-1

IMPROVED SEWER PIPE FINISHING MACHINE



This all new fully automatic Finishing Machine produces excellent finish rapidly and embodies many new features.

- Simplified alignment of trays
- Trays pivot concentrically with finishing head
- Pipe size changes are made easily and rapidly
- Scrap conveyor clears the machine clean
- Pipe remains cradled during entire finishing operation
- Concentric motor mounts assure perfect alignment

Heads adjust on machine bed for pipe lengths 2′ to 5′ and 4″ to 12″ diameter pipe. Operation provides for scarifying inside of socket and outside of spigot. Pipe lengths are cut to exact size. Various finishing head speeds available. Finishing heads available for both spigot and socket in all pipe sizes.

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HEAVY CLAY DRYERS

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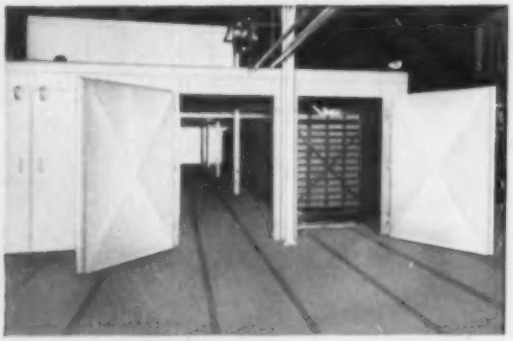
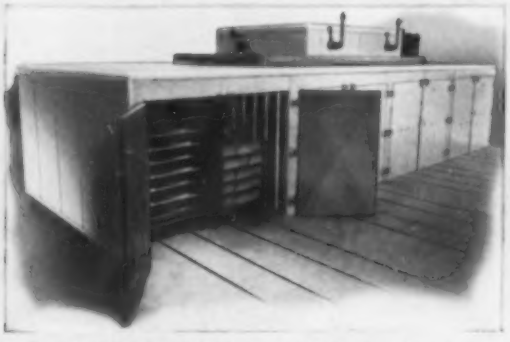


Car Type Humidity Controlled Fire Brick Dryer.

The LANLY Company's geographical location is near the heart of the country's clay products producing area. This has contributed to their 20 year acquisition of the essential knowledge and experience required to design and build the finest in heat processing equipment for the exacting varied applications in the industry.

Unprecedented competition, coupled with ever increasing costs has made it mandatory for clay products manufacturers to strengthen their relative positions in the field through the replacement of outmoded dryers. This has been accomplished in a large measure by their coordinated action with the LANLY organization.



Rack Type Humidity Controlled Refractory Dryer.

Progressive Type Humidity Controlled Quarry Tile Dryer.

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Brick & Clay RECORD NEWS REPORT

A complete, compact news section summarizing all developments for the industry's attention.

INDUSTRY NEWS
PRODUCT NEWS
READERS' COMMENTS
PRODUCTION IDEAS

Modern brick and tile use is illustrated in this building, one of the many new buildings built of ageless masonry on the campus of Georgia Tech. in Atlanta Georgia. The use of joistile in the grill reflects the growing use of special shapes in modern buildings.

Robert Barr With Babcock & Wilcox

Robert A. Barr has been appointed general manager of the Babcock & Wilcox Co's. Refractories Div. Barr was formerly assistant general manager of the Refractories Div. of the Carborundum Co. where he gained more than 30 years experience in the refractories field.

Eben Rodgers, Sr. Dies

Eben Rodgers, Sr. former president of the Alton (Ill.) Brick Company, died in a St. Louis Hospital on July 21 at the age of 85.

He had been failing in health for several years and was a patient in the St. Louis Hospital for the last 20 months. Rodgers' public service in Alton embraced many fields.

In industry, Mr. Rodgers took a position at the age of 19 with the Alton Brick Co. which was founded by his father, the late Edward Rodgers. The brick company grew into an important industry with several plants in the Alton and St. Louis area. It was sold to Cincinnati interests in 1955.

Rodgers was honored by the industry in many ways. He at various times held important offices in the National Brick Manufacturers Assn., the American Face Brick Assn. and the Structural Clay Products Institute. He had been president of each of these Associations. He had also been a member of the American Ceramic Society and the Common Brick Manufacturers Assn.

Moving?

If you're planning to move, remember to arrange for BRICK & CLAY RECORD to follow you. We need at least six weeks notice in advance.

NADD Committee Meets

The executive committee of the National Assn. of Distributors and Dealers of Structural Clay Products met recently in the Nation's capitol and decided to hold the NADD annual meeting again in conjunction with the Industry's annual convention. Plans call for a novel as well as informative meeting, tailored to the interests of distributors and dealers. This year's convention is Nov. 16-18 at the Greenbrier, White Sulphur Springs, W. Va.

Foster with Building Council

H. B. Foster, of the Brick & Tile Service, Inc., Greensboro, N. C., was recently named as vice chairman of the North Carolina Building Code Council. This is a nine-man board appointed by the Governor which has supreme power over all building regulations of every city, town and county in the State.

ROBCO Announces Offices

The directors of the Robinson Brick and Tile Company of Denver have approved a change in the management structure of the company. F. George Robinson, Robco President, announced that effective July 1, a newly created post of Executive Vice President was filled by W. W. Robinson and that A. Curt Jackson, Vice President of Production at Robco for the past 7 years, became v.p. Before joining Robco in 1952, Jackson spent 15 years in charge of Production at the Claycraft Company, Columbus, Ohio.

James E. Harris, formerly Tile Plant Superintendent, is the new Vice President of Production. Former Brick Plant Superintendent, William London, is now Tile Plant Superintendent and the Brick plant Superintendent's vacancy will be filled by Kenneth Bradford, former Special Projects Engineer.

Brick to 49th State

Claude Wiseman, right, W. Va. Brick Co. president recently sent a load of brick from the Barbourville Clay Mfg. Co. plant on what is believed to be one of the longest shipments of Brick from the U.S.A. Clyde C. Porter shakes hands with Wiseman before starting out on a truck trip with the brick to Mile Post 1230 on the Alcan Highway near Island Lake, Alaska which is only nine miles from the Yukon border. Porter is homesteading on a 160 acre plot. The entire trip will cover a distance of some 5,000 miles.

INDUSTRY NEWS

To Construct Lightweight Plant

Plans for construction of a modern Haydite lightweight aggregate plant were announced recently by R. G. Rogers, vice-president and general manager, Cooksville-Laprairie Brick Limited. The company, a division of Dominion Tar and Chemical Company Limited, is planning the new facilities adjacent to its brick plant at Delson, Que. At the same time it was announced that the Company intends to add 50 per cent to its productive capacity at the Cooksville, Ontario Haydite plant.

The Cooksville expansion will feature a completely new crushing, screening and blending plant to produce the various aggregate grades demanded and to ensure compliance of grading within the most rigid specifications. Total cost of the Cooksville-Laprairie expansion will be in the region of $1 million, Mr. Rogers said. The Cooksville addition is scheduled for completion by December 1959 and Delson in 1960.

These developments follow closely the start of a $4 million expansion of the company's brick manufacturing plants at Laprairie, Que. and at Cooksville.

The new construction, Mr. Rogers said, is designed "to meet the rapidly growing demand for lightweight concrete aggregates with high strength characteristics for concrete masonry units and in ready-mix structural concrete."

Continue Modernization Program

A modernization program began after the end of WW II is moving along smoothly at the Hazelton Brick Co., Hazelton, Pa. Plans were announced recently for the erection of a 27,000 sq. ft. storage shed to facilitate operations during the winter months. The modernization program includes the removal of seven periodic kilns which have been outmoded, remodeling of the office and erection of a display room. The firm currently employs 90 people and produces approximately 26,000,000 brick a year.

Start Production at Woodbridge

Brick production has started at the new plant of the Woodbridge Clay Products Co. in Manassas, Va. Normal production capacity of the new facility is 50,000 face brick per day. The layout has been arranged so that it can be expanded to 100,000 per day by installing a second kiln and adding to certain other auxiliary equipment. The plant is under the supervision of Grover P. Manderfield who has also been in charge of the original brick plant of Woodbridge Clay Products Co. for 20 years.

Build New Brick Yard

Bremend, Texas will have its first brick yard since the early days of Texas history. Duncan & Powers of Houston have contracted to buy clay on 35 acres. It is estimated that the clay is 35 feet deep. The clay will be dug and transported to town where the firm will buy or lease a 10-acre plot for the plant.

Enlarge Watsontown Plant

Luria Engineering Co. of New York City and Bethlehem, is in the process of constructing an addition to the Watsontown plant of the Glen Gery Shale Brick Corp. The 30,400 ft. square building will be used to cover a series of seven new kilns. An unusual feature of the structure is its large ventilating monitor on the roof of each of its seven spans.

To Represent Investment Co.

When the E. R. Davenport Co. of Providence, R. H. opens offices in New Haven, Lovell J. Holabird, former director of SCPI, will be a registered representative. Until recently and for 16 years, he was president and general manager of the Stiles & Reynolds Brick Co. of Berlin.

Grant Charter

Norman Brick & Tile Co., Inc., manufacturers of structual clay products have been granted charter of incorporation listing authorized capital stock of $200,000.

Sewer Pipe Companies Merge

Merger of Dennison Sewer Pipe Corp., Junction City Clay Co., and the Stillwater Clay Products Co. of Cleveland, was announced recently by James V. Duffy, president of Stillwater.

New L. W. Plant Slated

A multi-million dollar plant for the production of lightweight aggregate will be constructed in the Denver area by Great Western Aggregates Inc., a wholly owned subsidiary of Ideal Cement Co. Officials said that they would not be able to give a cost estimate until engineering plans now being prepared are completed.

Name Kelliher to Post

Stephen J. Kelliher has been named Assistant Director of Promotion for the Structual Clay Products Institute, SCPI board chairman Douglas Whitlock announced recently. Kelliher has done promotional work for the Institute for the past eight years and in his new capacity will serve as assistant to Promotion Director John E. Clark.

Scholarship Given By Three Firms

A scholarship in Ceramic Engineering at the University of Illinois has been awarded to Larry J. Sandage of Tell City, Indiana and is known as the Joint Scholarship award of the Cannelton Sewer Pipe Company, Texas Vitrified Pipe Company, and Owensboro Sewer Pipe Company. It is effective with the Fall semester of 1959.

Ground Broken for Sumter Plant

Ground was broken recently for the Eastern Brick & Tile Co. plant, a new Sumter County industry wholly owned within South Carolina. Construction contracts are being let and start of operations is slated for early fall with about 40 people slated for initial employment. The company will get its brick clay from a 93-acre tract near the plant site.

Succeeds Father as Head

A son succeeded his father as president of the Glen-Gery Shale Brick Corp. The firm, with 10 plants in Eastern Pennsylvania, announced that Woodrow R. Eshenaur exec. v.p. was elevated to the top after his father Russel G. Eshenaur, president for 20 years was named chairman of the board and chief executive officer.

Brooks Engineer of the Year

Marion E. Brooks, (left) recently was awarded the distinct honor of Engineer of the Year. The likable Brooks who hails from Columbus, Ga. was first president of the Georgia Engineering Society, a group he

helped organize. The award was presented to him for untiring work on the local scene for the engineering profession. He is shown here accepting the Joe Gamble trophy symbolic of the award, from Joe Gamble, himself.

Attends Exec. School

Wm. H. Thompson, plant superintendent of the A. P. Green Fire Brick Co. attended the fifth annual Management Development Conference of the Washington University School of Business Administration at Pere Marquette Lodge, Grafton, Ill. The two week confab was designed for young executives with promising futures in general management and whose background is specialized.

Free Patio Offered to Lucky Party

A brick patio, displaying the many uses of brick for outdoor living was recently constructed in the lobby of the Marquette National Bank, Minneapolis. During the three week display period, bank customers filled out entry forms for a drawing to be held to win the entire patio, built at the home of the lucky person.

The bank used the display to promote their Home Improvement Loans and Home Mortgage Loans and ran several ads featuring the contest. The cooperating organizations saw this as an excellent way to promote the uses of brick in the residential field.

The project was coordinated by Chuck Wetzler, Field Engineer, Region 6 Structural Clay Products Institute, with the member brick plants furnishing the materials. The display was built in the bank lobby by the Bricklayers and Stone Masons Local #2 of Minneapolis, using a clay mortar so that it could be dismantled and rebuilt in the yard of the contest winner. Minneapolis Chapter of the Concrete and Masonry Contractors Assn. saw to it that the patio was permanently installed for use at the residence of Mrs. H. B. Sandine, Sr., the lucky recipient whose name was drawn.

A.I.A. Gathering

Adding to the success and enjoyment of the recent A.I.A. convention in New Orleans was a cocktail party sponsored by the Mississippi-Louisiana Brick & Tile Assn. and the Southern Brick & Tile Manufacturers Assn. for the Gulf States Region AIA. Some 400 people attended. Looking lenswise here are (l-r) Dean Ramey and his wife, N. A. Anderson, Mrs. Burt Brush, M. P. Schneider and his wife and Burt Brush.

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1/Circle on Reader's Service Coupon

Brickhandling costs are cut with a BICKERSTAFF brick fork. Is said to reduce kiln loading and unloading time by 60-man hours.

2/Circle on Reader's Service Coupon

Equipment by The BONNOT CO. is said to give product quality, quantity production and the lowest possible cost.

3/Circle on Reader's Service Coupon

Precision wheels for brick and clay and ceramic industries is the product of SAN-FORD DAY. Company is ready to help with wheels problems.

4/Circle on Reader's Service Coupon

No. 5-A vacuum extruder by CHAMBERS BROS CO. Machine has shown a wide usefulness for the extrusion of an infinite variety of ceramic products.

5/Circle on Reader's Service Coupon

Additive-A reduces seconds, insures uniformity, improves clay workability, aids water penetration, permits more even temper. Is a product of KIMBERLY-CLARK.

6/Circle on Reader's Service Coupon

Batch Mixers by the makers of the world famous Vibrapac. The BESSER CO. product insures quick acting air operated discharge gate with strong cylinder action.

7/Circle on Reader's Service Coupon

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8-59

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9 Pearne & Lacy Co.
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Page 66 Des Moines Glove
Page 66 Tyler, W. S. Co.
Page 70 Steele, J. C. & Sons
Page 71 Fate-Root-Heath
Page 72 American Clay Machinery

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Mfgrs. Name _____

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This card void after October 30, 1959

Steel Strapped Pipe by ACME STEEL CO. aids in reducing manual handling operations by 50% between kiln and user and permits loading and unloading reportedly eight times faster in certain situations.

8/Circle on Reader's Service Coupon

The Octopus for complete automatic production of pipe with drying rings by PEARNE & LACY CO. Is said to remove large pipe from vertical press, finishes both spigot and socket ends, cuts pipe to length and provides drying rings.

9/Circle on Reader's Service Coupon

Dry press by BOYD for quality building brick. Is said to give more profit volume, durability, low maintenance, flexibility to the product line and top quality product at high production rates.

10/Circle on Reader's Service Coupon

Pack-Hauler by PACK-HAULER. Is said to build up sales, eliminate costly handloading and unloading and solve long-haul problems too. Less inventory, fewer damage claims, increased plant efficiency and time-saving are some of features.

11/Circle on Reader's Service Coupon

Dry Pressing by LASSMAN features precise control and smooth response over a wide range of operating characteristics.

12/Circle on Reader's Service Coupon

Modern and efficient screening at a low price is available from the UNIVERSAL VIBRATING SCREEN CO.

13/Circle on Reader's Service Coupon

MILLER EQUIPMENT CO. cross-flow tunnel kilns use controlled scientific cooling for high production. Available from the company is hammermill crushers, conveyor equipment, engineering service.

14/Circle on Reader's Service Coupon

Answers to most wear problems in brick and clay plants elaborated on in section 4 of the STOODY guidebook. It contains alloy recommendations and detailing welding procedures for rebuilding and hard-facing most brick and clay equipment subject to severe wear.

15/Circle on Reader's Service Coupon

Belt conveyor idlers by BARBER GREENE has now been expanded to include two new series of heavy-duty units with both being built to handle large lumps and heavy materials at high speed.

16/Circle on Reader's Service Coupon

Steam or hot water generators by THE NORTH AMERICAN MFG. CO. Are completely engineered units. Are factory assembled packaged units completely piped, wired, and trimmed so that only fuel, vent, water steam, and electric power connections are required on the job site.

17/Circle on Reader's Service Coupon

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Miss Clayland Contest—1959

Truckload of Beauty

"MISS CLAYLAND" candidates are loaded into a spectacular giant-sized facial tissue pipe during the 10th annual National Clay Week activities honoring one of the nation's oldest and most vital industries—the manufacture of clay pipe and related clay products. Selected as "Miss Clayland of 1959" was comely and talented Miss Susan Fox (first row right) of Coschocton, Ohio, and a sophomore at Ohio State University, Columbus, Ohio. The prize winning float was entered by The Evans Pipe Company, Uhrichsville, Ohio, and carried the legend "Sewer Pipe—Flower of the Industry". "Miss Clayland" represented the eight county area in the "Miss Ohio" pageant scheduled at Mansfield, Ohio, on August 6-7.

Toner Elevated at Natco

Harry F. Toner was recently elected v.p.-sales of Natco Corp. He had been general manager of sales since 1957. He has spent his business life in the clay products industry.

Kaiser Names two v.p.'s.

Two former top-ranking officers of Mexico Refractories Company have been elected officers of Kaiser Aluminum following the recent merger of Mexico Refractories into Kaiser Aluminum & Chemical Corporation. W. Basil Leach, formerly president of the Mexico, Missouri company, becomes a vice president of Kaiser Aluminum & Chemical Sales, Inc. Charles A. Smith, (left) who was executive vice president of Mexico Refractories, has been elected a vice president of Kaiser Aluminum & Chemical Corporation. Both will continue to make their headquarters at Mexico for the immediate future.

Durato Promoted at Metropolitan

John S. Durato has been appointed manager of purchasing and traffic of Metropolitan Brick, Inc., it was announced recently. Durato joined the company in 1950. He is a former chairman of the freight traffic committee of Region 4 of SCPI.

Joseph H. Kruson Retires

It was announced recently that Joseph H. Kruson, v.p. and director of Mexico Refractories Co. has retired after 40 years in the refractories industry. A co-founder of the Mexico Refractories Company in 1929, and formerly president of the Big Savage Refractories Corporation, Kruson had previously been Director of Research for the A. P. Green Fire Brick Company in Mexico, Mo., where his work in the development of diaspore refractories won for him considerable recognition in the industry. A 70% alumina brick, KRUZITE, named for him, is still widely marketed.

SCPI Briefs

William J. Houk, formerly with the Southwest Assn. as a field engineer, has just been named Regional Director of SCPI Region 17, with headquarters in Seattle. Bill holds a bachelor's degree in architectural engineering from State College of Washington.

Richard G. Capen, Jr., has recently joined the clay products industry as Assistant to the Director of the Facing Tile Institute. Dick is a graduate of Columbia University and has just finished three years of service as a Lieutenant in the U.S. Navy in the Far East. He is already getting into the swing of FTI activities, using Washington, D. C. as his base.

SCPI has some more new members—Board Chairman Doug Whitlock has sent a hearty welcome to these three companies which have added to the industry's united strength: Bickerstaff Clay Products Co., Columbus, Georgia; Cannon & Company, Sacramento, California; and Kendrick Brick & Tile Co., Charlotte, N. C.

A new association of brick and structural tile manufacturers in N. J., Eastern Pa., Del., Md., and Washington, D. C., has been organized. Known as Structural Clay Products Institute, Region 3, the group will conduct a promotional, technical and educational program for its members, according to Walter M. Whitehill, Secretary.

President of SCPI Region 3 is Morriss Corbman of the New Jersey Shale Brick & Tile Co., Somerville, N. J. Treasurer is Charles Alwine of the Alwine Brick Co., New Oxford, Pa. The position of vice president has not yet been filled.

Lowry to Memphis Post

The A. P. Green Fire Brick Company announced the appointment of Hugh Lowry as sales representative of the company's Memphis territory. Mr. Lowry has been with the Green Company for 13 years. Prior to his present appointment, he was a sales representative for Illinois A. P. Green Fire Brick Co., a Chicago affiliate.

Weber to Manager's Post

Fritz Weber has been named to the post of manager of the Clay Products Plant in New Brunswick and Nova Scotia. He is a ceramic engineer educated in Germany.

CB & W Wins "Good Neighbor" Award

A citation for "outstanding accomplishments in plant beautification and awareness of Industry's responsibility as a good neighbor" was recently awarded to Chisholm, Boyd & White Company by the Chicago Association of Commerce and Industry. R. A. Ebersole, v.p. and general Manager of the Brick Press Machinery firm, received the award for Philip A. Turner, Plant Manager. Among CB&W award-winning accomplishments, according to the citation, were:

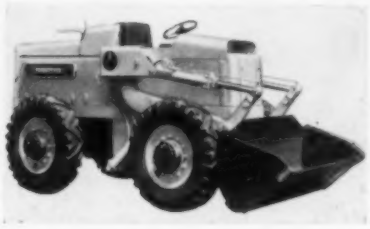
Boyd Field—loaned to local Little League by CB&W and improved and developed into ball field by boys themselves.

Clean up and beautification of plant grounds in a two year program.

The company received one of seven awards given by the Chicago Association of Commerce and Industry to firms that have "made efforts to cooperate in Chicago's clean up and beautification program".

Awards were presented by Paul W. Goodrich, President of the Association to R. Ebersole (left).

NEW PRODUCTS



Tractor Shovel

A four-wheel drive, rubber-tired tractor shovel with 5,000 lbs. carry capacity, the model H-50 is already in production. Features include more power available for both hydraulics and traction, more efficient torque-converter, complete power-shift transmission, power-transfer differentials, power-steering, pry-out bucket action, safety boom arms, power boosted brakes and numerous refinements. The new and more powerful gasoline and diesel engines provide from 90-92 hp.

The Frank G. Hough Co.

50/Circle on Reader's Service Coupon

Aluminum Handling Unit

Increased payloads of more than 1,000 lbs. per load are achieved with a newly developed aluminum brick and concrete handling unit. The loader and the unloader can be used either on a lift truck or separately suspended from a crane. Experience to date shows that 800 lbs saved by the aluminum construction has made possible an increased payload of more than 1,000 pounds per load.

Schmidgall Mfg. Co.

51/Circle on Reader's Service Coupon

Additive Petro-AA

This surfacant additive is now commercially available for the stiff mud extrusion of brick, sewer pipe and quarry tile. This product lowers the surface tension of the moisture without wetting the clay. The effects are improved moisture distribution, more rapid drying and significantly reduced cracks and checks cost is reportedly three cents per ton of clay.

Petrochemicals Co.

52/Circle on Reader's Service Coupon

Materials Handling Unit

Dumper lifts and dumps complete inplant bulk trucks. The unit is designed for rapid, low-cost batch loading of mixing, grinding and pulverizing machinery or kettles, tanks, vats and other process equipment. It permits the truck to be filled and weighed remotely from the receiving vessel. The dumper is available in capacities up to 3,000 lbs and dumping weights to 50 feet. Is furnished in portable and stationary models.

Conveyors and Dumpers, Inc.

53/Circle on Reader's Service Coupon

4-Wheel Drive Terraload'r

Has 6500 lb. carry capacity and also has 6 cylinder 100 hp diesel engine. Optimum power-to-weight ratio minimizes wheel slippage and consequent tire ware; reportedly greatly increases economy of operation. Boasts wide tread and excellent weight distribution which puts 40% more weight on the rear wheels—eliminating bucking or raising rear wheels of the ground.

J. I. Case Co.

54/Circle on Reader's Service Coupon

New Controls for Syntron Feeders

Development of these controls provide continuous, stepless variable feeding rate adjustments, from nothing to 100% capacity and anywhere in between. They are said to provide instantaneous feed rate variation permitting accurate regulation of feeding to processing requirements in the feeding of coal, chemicals, clay and other bulk materials for operations requiring dependable, easy, rate controlled feeding.

Syntron Co.

55/Circle on Reader's Service Coupon

Rotary Vibrator Screen

An electrochemical screen, driven by a powerful rotary vibrator to efficiently handle a wide variety of applications is available. The RVS-146, fitted with dust-tight covers to prevent loss of materials and reduce dispersion, featuring a four by six foot screening surface, will handle dry or wet screenings of sand, gravel, clay etc. The item is available with single or double deck screening areas and can be equipped with either a 900 or 1800 rpm drive.

Syntron Co.

56/Circle on Reader's Service Coupon

7" Pneumatic Vibrator

Massive Pneumatic Vibrator delivering 16,000 lbs. of impact. Used principally on vibrating tables, hoppers, large bins, railroad car shakeout and special packaging platforms. This item operates on 60-80 lbs. of air pressure and the 176 lb. piston has an 1¼" stroke. Vibrator speed and intensity can be varied according to needs, and unit can be rigged to operate continuously or intermittently. Reciprocating action of the piston is air cushioned for quiet operation on applications where noise is an objectionable factor. Weight is 539 lbs.

Cleveland Vibrator Co.

57/Circle on Reader's Service Coupon

Foams for Insulating Efficiency

The thermal insulating efficiency of rigid urethane foams is nearly doubled and materials costs are substantially reduced through the use of Genetron 11 as a blowing agent according to a recent report received. Using low-cost genetrons as blowing agents reduces the total cost of the urethane foam raw materials appreciably. These blowing agents are said to facilitate production methods and improve efficiency thus providing further savings.

Allied Chemical Corp.

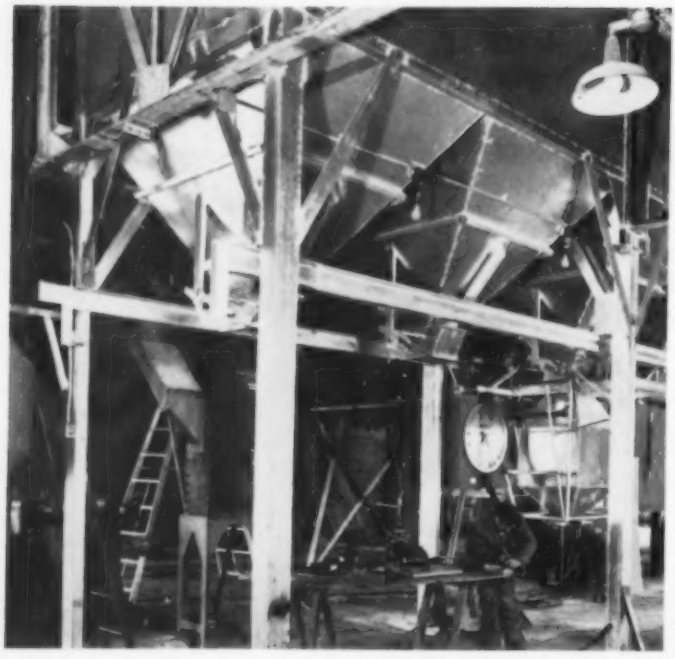
58/Circle on Reader's Service Coupon

Big Things Happening at Denver Firm

View of the new lab at Denver Fire Clay Co. Lab cost some $50,000.

A long-time dream materialized for the Denver Fire Clay Co. recently when they announced completion of their new research laboratory in Denver.

The imposing facility has been designed to aid in the development of new high temperature refractories for use in industrial and military fields. Company officials also point out that plant equipment is available to make small commercial quantities. Augmenting these features is the fact that special projects will be undertaken for commercial and governmental agencies whenever they fit into the general research objectives of the laboratory. Equipment is available for forming by all methods and flame spraying equipment is to be added. Firing facilities are installed for heat treating products up to temmperatures of 3400°F.



The bin system of the refractory plant with batch weighing hopper car is pictured here. The grinding system is to the left and the plastic mixing system will be in the center background.

Brandt is Head

Specific research is in crucibles, coatings, and special shapes and parts composed of alumina magnesia, zirconia, and other highly refractory oxides and compounds.

Much of the responsibility for the new operation is under the direction of Wm. O. Brandt, formerly Director of Research and now manager of the Refractory Division of the company. He is a Fellow and former v.p. of the American Ceramic Society. He was formerly Director of Research for Gladding McBean & Co. in Los Angeles, where he headed the group which developed a commercially successful process for production of ceramic radomes.

Complete Another Unit

Also recently completed was Denver's refractory speciality plant. This unit according to the company is the most modern high capacity speciality plant in the West. It is designed to be especially flexible, allowing products to be designed and manufactured for individual customers whenever necessary.

Reports Indicate Rosy Future For Expanded Clay-Shale Aggregate

The Expanded Clay and Shale Association, meeting in New York City for its mid-year convention June 18 and 19, heard optimistic reports on the outlook for expanded clay and shale lightweight aggregates.

The consensus of feeling was that the market for lightweight aggregate will continue strong in the masonry unit field, while growing considerably in other areas such as structural, precast and prestressed concrete.

At a series of open forum discussions led by B. K. Powers, chairman of the Association's Technical Problems committee and vice-president of Virginia Lightweight Aggregate Corp. (Weblite), it was pointed out that the future potential for lightweight aggregate in structural concrete is very large, but the accent must be on service at the actual job site. "Architects and structural engineers have come to recognize the savings that are possible because lightweight concrete means less dead load with resultant economices in steel,, but they expect and should have the fullest cooperation of the producer and the contractor in field work," Powers commented.

R. G. Hardy, president of the Association and general manager of Onondaga Brick Corp. in Warners, N. Y., led the forum into a discussion of new uses of lightweight aggregate. It was brought out that lightweight aggregate is finding favor as a material for septic tank drainage. Florists are using lightweight aggregate as a mulching agent. Many local telephone companies are now making underground conduits of l.w. aggregate concrete because they find the size of underground sections can be increased by at least half. Power line transmission poles of l.w. concrete are also being seen in increasing numbers, notably in Florida. Running tracks, both for humans and horses, are utilizing lightweight aggregate as a base material.

Another promising use of lightweight aggregate is in floors of factories where the temperature of the floors has been determined to be a definite factor in reducing worker fatigue. Loose coarse aggregate, poured into cores of block walls, is being used as fill where a little more insulation is wanted than ordinary walls provide. Cold storage plants—again because of l.w. aggregate's insulation value—are specifying the product, especially among fruit growers in Virginia and elsewhere. Still another growing market is being found in precast stepping stones which are increasing in size to as much as three feet square, where one workman can still handle a step. Less cracking and more even texture of the stepping units has been reported, and with the increased use of color, better results have been obtained.

Insulation of poultry houses where no heat is put into the houses is yet another expanding market, the ECSA meeting was told. L.w. concrete blocks are preferred for many farm structures, in fact, where a high degree of insulation is required for maintenance reasons. And in the field of ceramic art—for sculpturing, plaque backgrounds, etc.—lightweight aggregate has found increasing favor. The material is being used in cracking plants of large oil firms . . . in roads where slippery conditions are especially acute . . . on bridge decks, overpasses and malls where resistance to freezing and thawing is a must.

The forum concluded that the future market for l.w. aggregate in the block industry will remain firm, while growing in other fields. It was generally agreed that the block industry in a few short years has "come out of the cellar" and has made remarkable advances to higher standards of construction because of new and versatile shapes, colors and glazing effects.

T. R. Berger, executive secretary, presented a report on activities of the Association covering the six month period since the annual meeting in Cleveland last January. L. E. Pfeiffenberger, technical director, gave a comprehensive review of the Association-sponsored test and research program which has been going on since 1957.

Roanoke, Va., was selected as the locale of the Association's annual meeting January 28 and 29, 1960. Hotel Roanoke will be convention headquarters with Virginia Lightweight Aggregate Corp. as host firm.

Fire Hits Arizona Co.

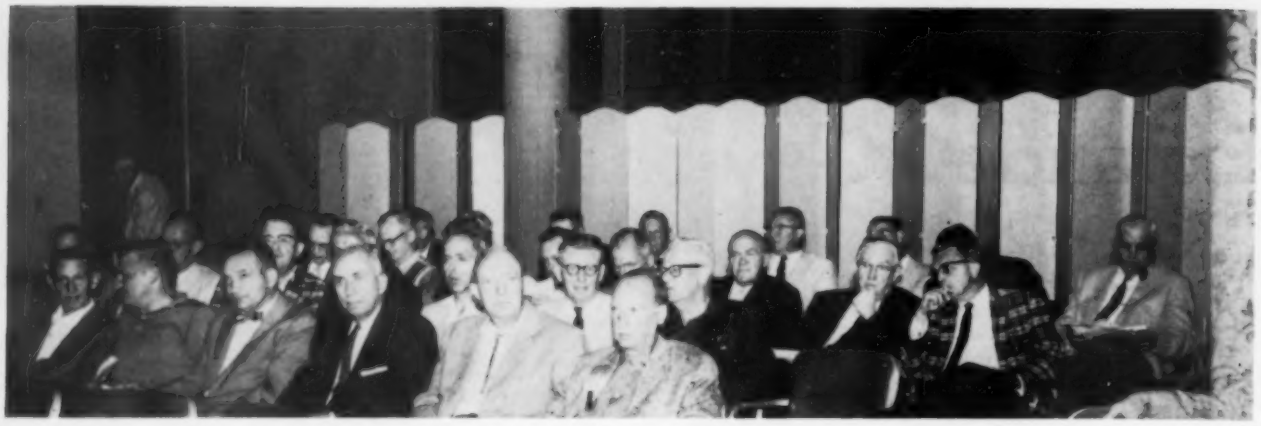
Fire destroyed the wooden doors and rafters of a building housing drying rooms at the Grabe Brick Co. plant, 421 N. Grande Ave., in Tucson recently. The fire started on the south side of the building. A slightly shifting breeze apparently aided the spread of the flames to all parts of the structure. Cause of the fire was not immediately determined. Damage was estimated at $10,000.

What is Pink?

Richmond, Virginia's two new high schools are to be built with pink brick but authorities are having difficulty deciding what color pink actually is. One school board member thought that the sample brick looked orange. Another said that it looked tan. Several brick firms were requested to build about 10 small walls to give the board a better idea of the sample.

Carter-Waters to build Iowa Plant

The Centerville, Ia. Chamber of Commerce has confirmed that construction has begun on a lightweight aggregate plant about 3¼ miles north west of Centerville. Carter-Waters, Kansas City, Mo. was named as the owner of the new Rotary Kiln installation scheduled to be completed in 1960 and to cost approximately $350,000.00.



Part of large crowd that attended recent TRI meet at White Sulphur Springs. Many members came away convinced that this was the best TRI Convention they had attended to date.

Record Crowd Sees Arthur Named as New TRI President

Greenbrier meeting considers the effect of recent legislative, administrative and judicial action on the depletion position of the refractory industry.

J. B. Arthur

J. B. Arthur, Founder of Mexico (Mo.) Refractories Co., Div. Kaiser Aluminum & Chemical Corp. was elected president of The Refractories Institute at the semi-annual meeting of The Institute held at the Greenbrier, White Sulphur Springs, W. Va., 25-26. He succeeds James Brinckerhoff, Babcock & Wilcox Co., N.Y. who served as president for two terms. This meeting was the best attended to date with 83 men and 60 ladies present. Colin Stein of the John G. Stein Co., Scotland, a guest, was among the crowd.

After disposing with the routine affairs of the Institute at the first day session of the meeting, Louis Trostel, General Refractories Co., Philadelphia, Pa., reported for the Technical Advisory Committee. He indicated that available research funds for Mellon Institute Refractories division have been on the increase. The research study on balling of fire clays has been completed and a bulletin issued. The study on pressure cracking is under way and is being intensified. Test investigations are being made on the spalling of silica brick and the castable consistancy meter. It was suggested, as further topic for reseach, that some of the unanswered questions from the operators meeting may be subjects for investigation.

Discussing the routine work, Trostel was concerned with the financing of customer testing and thought it might need further subsidizing. It was decided at the board of directors meeting that the deficit resulting from testing at Mellon Institute will again be subsidized as funds are needed.

In his work with the census committee, he secured further classification subdivisions on insulating fire brick. Duplication in refractory grain reports should be investigated. He thought, too, that Dolomite reporting might be stopped. The export division was asked to conform their refractories classifications with other departments.

In ASTM work, the committee has completed drafting the pouring refractories specifications and now they are out for industry ok.

Specs are considered for insulating fire brick where used under neutral and reducing condition. Incinerator brick specs are to be modernized. Also, the brick size tolerance specs are to be brought up to date. It was suggested that basic brick classification be based on M_gO content.

Ken Rugh, Garfield Refractories Co., and chairman of the operators' meeting committee, gave a very favorable report on the Columbia, Mo.

Relaxing for a moment at the proceedings, R. A. Barr, W. K. Schweickhardt, A. J. Tomasek and J. J. Duggan pose for our B&CR camera.

operators' meeting held earlier this year.

It was also revealed the palletizing committee is planning to revise the palletizing manual and reprint it, and the labor committee will resume publishing its periodic pamphlet cover in arbitrations decisions.

Wm. Lowe reported on the statistic studies to be made on the refractories industry. One method of reporting being investigated will be a study by an outside firm which will gather statistics and report the compilations to the industry.

F. M. Hiles, W. J. Kenney, L. R. Brant, J. H. Rickey Jr., and F. H. Atwood are all smiles, perhaps as the result of a comment by Hiles. Whatever the reason, this group seems to be enjoying the respite from the work at hand.

Wm. Kenney, counsel for TRI, reported on depletion. The treasury, he said, made a drive this year on establishing an end point at the crushed and ground clay operation in production. It however refused to establish the published industry price list as the market value.

As a counter measure to the success of past law suits in favor of the taxpayer, the treasury wants to win a case so that the entire matter can be reopened before the supreme court.

The refractories industry has, he said, reached a point of choosing courses. The industry must settle on the cut off point and clay value or decide to demand depletion on the end product. He suggested that claims be made on end product interpretation.

The guest speaker for the meeting was J. R. Price of the Office of Civil and Defense Mobilization. He told of the industry's responsibility in mobilization and told something of the steps industry should take to prepare itself for mobilization.

It was announced that the next meeting of the Refractories Institute will be held Oct. 8-9 at the Grand Hotel, Point Clear, Ala. The Board of Directors for 1959-60 are:

J. B. Arthur, Mexico Refractories Co: F. H. Atwood, Harbison-Walker Refractories Co: J. E. Brinckerhoff, The Babcock & Wilcox Co: E. E. Davis, The Davis Fire Brick Co: H. P. Eells, Jr., Basic Incorporated: E. W. Ernst, Louisville Fire Brick Works, Inc: W. A. France, J. H. France Refractories Co: E. A. Garber, Harbison-Walker Refractories Co: L. Y. Greene, General Refractories Co: R. A. Hitchins, National Refractories Div: T. Kauffman, The Ramtite Co: R. W. Knauft, The Chas. Taylor Sons Co: F. H. Laube, Freeport Brick Co: W. S. Lowe, A. P. Green Fire Brick Co: E. F. Meyers, The Ironton Fire Brick Co: W. H. Peterson, Sr., Valentine Fire Brick Co: George Puls, Acme Brick Co: J. R. Rhodes, Gladding, McBean & Co: G. T. Stowe, E. J. Lavino and Company: A. M. Swank, Hiram Swank's Sons: A. J. Tomasek, Walsh Refractories Corp: W. T. Tredennick, Refractory Specialties Co: W. A. Turner, H. K. Porter Company, Inc: E. W. Valensi, North American Refractories Co: H. F. West, Illinois Clay Products Co: L. E. Whitesell, Wellsville Fire Brick.

New Literature

Adjustable-Speed and drive control problems are discussed in a booklet designated bulletin K-250. The booklet presents eight pages of typical applications along with various methods and types of remote and automatic control, plus variable speed drives. It is offered by the CLEVELAND WORM & GEAR CO.

59/Circle on Reader's Service Coupon

Brick Packaging for More Net Profit is the title of a 16 page brochure now available from SIGNODE STEEL STRAPPING CO.

60/Circle on Reader's Service Coupon

Sweco Vibrating Screen Separators for Clay Products is the title of a four-page booklet released by the SOUTHEASTERN ENGINEERING CO.

61/Circle on Reader's Service Coupon

Lets Talk Trailers is the title of a 12-page brochure now available from the GALION ALLSTEEL BODY CO.

62/Circle on Reader's Service Coupon

A four page bulletin detailing applications of their one piece vibrator has been announced by the NATIONAL VIBRATOR CO.

63/Circle on Reader's Service Coupon

Air-operated pumps that develop pressures to 50,000 psi at temperatures up to 500°F. are described in bulletin AOP-PR available from the AMERICAN INSTRUMENT CO., INC.

64/Circle on Reader's Service Coupon

How one lift truck can do the work of two in operations where low clearance and high stacking ability are required is told in a brochure published by the HYSTER CO.

65/Circle on Reader's Service Coupon

Industrial storage battery users and maintenance men are the target of a 36-page handbook of technical instructions and engineering data on the care of motive power storage batteries. The book is available from the GOULD NATIONAL BATTERIES, Inc.

66/Circle on Reader's Service Coupon

Carbide Grinding with Man-Made Diamond Wheels, a practical demonstration condensation of facts and recommendations on man-made diamond wheels sets forth in concise usable form the characteristics of man-made diamonds, wheel shapes and applications recommendations. This four page 8½ x 11" two color job for reference folders of purchasing agents and toolroom men is availfrom the CARBORUNDUM CO.

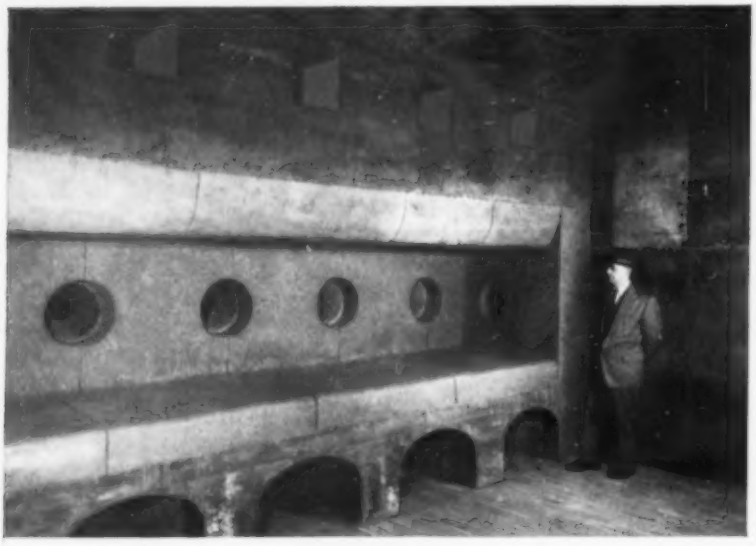
67/Circle on Reader's Service Coupon

A heavy duty air compressor having a modern semi-radial design is described in a brochure released by the JOY MFG. CO.

68/Circle on Reader's Service Coupon

A Muller Mixer is described in a leaflet published by INTERNATIONAL CLAY MACHINERY OF DELEWARE, INC.

69/Circle on Reader's Service Coupon



600,000 brick/day furnace Sets 4½ Year Service Record

"Excellent constant-service record . . . speaks well for Plibrico design, construction and products," states Brick Co. Vice President

Even after 4½ years of severe service in the huge combustion chambers and burner section, where temperatures reach 2000° F., only minor maintenance was needed. This was in the primary combustion chamber where the punishment is most extreme.

"Zoned" one-piece lining is economical. By matching the type and grade of refractory to the temperature and operating requirements for each furnace zone, Plibrico engineers give you not only better linings but lower costs. There is a Plibrico plastic or castable refractory that is just right for each zone.

One-source guarantee. Plibrico engineers, working with Plibrico materials, provide centralized responsibility . . . assure complete integration of installation and specification. Your local Plibrico Field Engineer will be glad to tell you more about this "package" service.

SEND FOR CATALOG 73 showing how other firms reduced maintenance cost in drying, calcining and processing furnaces.

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Serving the Furnaces of Industry 24 Hours a Day
PLIBRICO COMPANY, 1816 Kingsbury, Chicago 14
Plibrico Sales & Service Throughout the World
REFRACTORY PRODUCTS · ENGINEERING · CONSTRUCTION

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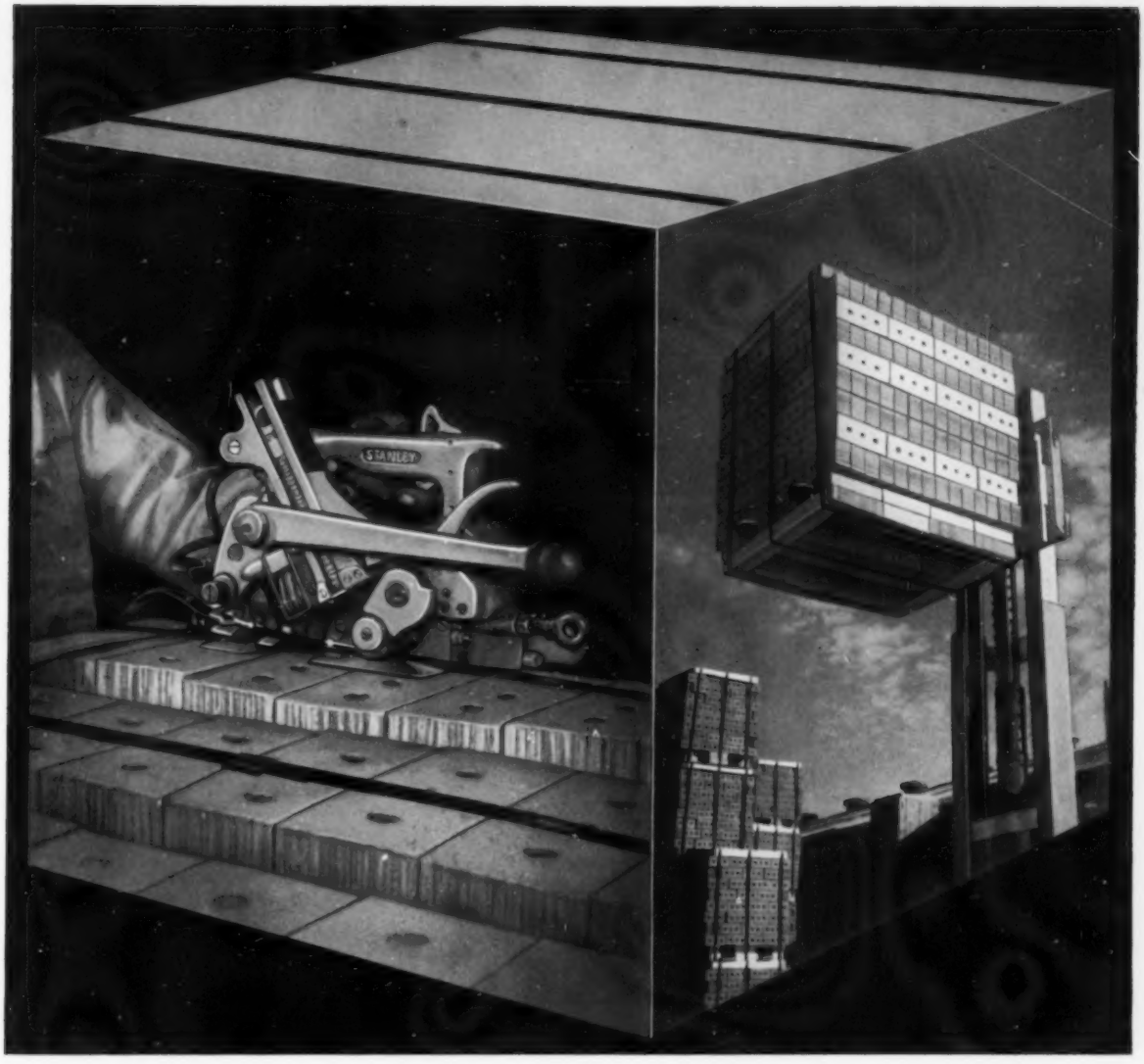

Loading time reduced 83% with STANLEY Steel Strapping System

When The Huntsville Brick and Tile Co., of Alabama, handled brick manually, it required 90 minutes to load each truck with 6,000 brick. 5% of the company's entire output was lost through brick breakage!

The Stanley Steel Strapping Specialist came along with a new packaging idea and the Stanley Electric Skid Magazine Tool. Now, bricks are Stanley steel strapped into 500-brick packages, with Stanley ESM Tool. Loading time has been reduced 83% and brick breakage cut from 5% to less than 1%!

Perhaps you need a new packaging idea, or a more efficient steel strapping tool. Write for Data Sheets to STANLEY STEEL STRAPPING, Division of The Stanley Works, Dept. H, 1308 Corbin Ave., New Britain, Conn.

STANLEY **INSURE IT—SECURE IT WITH STANLEY STEEL STRAPPING**

STANLEY
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AMERICA BUILDS BETTER AND LIVES BETTER WITH STANLEY

This famous trademark distinguishes over 20,000 quality products of The Stanley Works, New Britain, Conn.—hand tools • electric tools • builders hardware • industrial hardware • drapery hardware • automatic door controls • aluminum windows • stampings • springs • coatings • strip steel • steel strapping—made in 24 plants in the United States, Canada, England and Germany.

In Canada: Steel Strapping Division, The Stanley Works of Canada, Ltd., Hamilton, Ontario

Varco MARKS THE SPOT

. . . and there are 52 brick and clay manufacturing "spots" throughout the United States and Canada that utilize Varco Steel Buildings. Some have Varco Kiln Buildings or Machine Rooms made of strong, steel rigid frames with galvanized, aluminum, or corrugated asbestos covering. Some have economical Varco Clay Storage Buildings erected with tubular framing. Others have complete plants of Varco Steel.
Many are repeat customers. They've all found that Varco offers a low cost, dependable structure, tailor-made for the brick industry . . . and it can be erected quickly. If you're planning expansion or improvement, inquire about Varco Buildings. For a recommendation, check with a Varco customer. Some of them are listed on the next column.

Varco STEEL BUILDINGS

VARNER STEEL PRODUCTS, INC.
P. O. BOX 781 • PINE BLUFF, ARKANSAS

Following is a list of Brick and Clay Firms utilizing Varco Steel Buildings:

Atlanta Brick & Tile, Atlanta, Ga.
Atlas Tile & Brick, Shuqualak, Miss.

Champlain Brick, Champlain, N. Y.
Cloud Ceramic, Concordia, Kan.
Clay Products, Holly Springs, Miss.
Columbia Brick & Tile, Columbia, S. C.
Coral Ridge Brick, Louisville, Ky.

Diller Tile, Williamsport, Md.
Dixie Brick, Natchitoches, La.
Dixie Fire Brick, Kimberly, Ala.
Durex Refractories, Jackson, Ohio

Edmonds Art Stone, Hyattsville, Md.
Elgin Butler Brick, Elgin, Texas
Elizabethton Cinder Block, Elizabethton, Tenn.

General Refractories, Stevens Pottery, Ga.
General Shale Products, Johnson City, Tenn.
General Shale Products, Kingsport, Tenn.
General Shale Products, Knoxville, Tenn.
General Shale Products, Rural Retreat, Va.
Great Bend Brick & Tile, Great Bend, Kan.

J. D. Henry Brick, Selma, Ala.
Holly Springs Brick & Tile, Holly Springs, Miss.

Jenkins Brick, Montgomery, Ala.

Kasten Bros. Brick, Jackson, Mo.
Key James Brick, Chattanooga, Tenn.

LaChance Brick, Gorham, Maine
Laurel Brick Works, Laurel, Miss.

Malvern Brick & Tile, Malvern, Ark.
Martin Brick, Coleman, Texas
McAvoy Vitrified Brick, Phoenixville, Pa.
Merry Brothers Brick, Augusta, Ga.
Mexico Refractories, Mexico, Mo.

North American Refractories, Farber, Mo.
North American Refractories, Womelsdorf, Pa.

Payne Brick, Elgin, Texas
Pyro Refractories, Oak Hill, Ohio

Reliance Clay Products, Lindale, Texas
Roanoke Webster Brick, Draper, N. C.
Roanoke Webster Brick, Roanoke, Va.

Salem Brick, Salem, Va.
Sioux City Brick & Tile, Sioux City, Iowa
Southern Brick & Tile, Byhalia, Miss.

Teague Brick, Teague, Texas
Texas City Products, Malakoff, Texas
Tri-State Brick, Jackson, Miss.

United Brick & Tile, Oklahoma City, Okla.

Victor Cushwa & Sons, Williamsport, Md.

Washington Brick, Terra Cotta, Wash.
Washington Brick & Tile, Muirkirk, Md.
West Brothers Brick & Tile, Washington, D. C.
Western Clay Products, Ltd., Regina, Saskatchewan, Canada

Yankee Hill Brick, Lincoln, Neb.

10 Years Ago . . .

SCPI, Region 5 held their eighth general assembly at the Sheraton Hotel in St. Louis. Firsthand information on regional activities was given by Max Kuehnert of the Institute. Main topic of the meet was the challenge of the buyers' market.

Two prominent companies celebrated their 50th anniversaries. Leeds & Northrup and The Thew Shovel Co. both looked forward to the next 50 years.

The Refractories Research Committee of the Ceramic Assn. of New Jersey held its fourth annual meeting at the school of ceramics, Rutgers U.

The Cambria (Ohio) Clay Products Co., manufacturers of silica fire brick, installed a W. A. Riddell rim discharge grinder to grind silica, quartz and sand.

It was announced that the University of Illinois would have 30 Ceramic graduates for the year 1949.

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20 Years Ago . . .

The Rockford (Ia.) Brick & Tile Co. was making extensive plant improvements which were expected to increase tonnage production materially. Construction was to start on a new kiln and erection of a large coal storage bins was slated.

Iowa and Minnesota clay products manufacturers were reporting a strong volume of business for May and June. The Mason City, Ia., Brick & Tile Co. reported orders for several months ahead while the Rockford (Ia.) Brick & Tile Co. termed business exceptionally fine with the best May since 1929.

The new tunnel kiln at the Canton, Ohio plant of the National Fireproofing Corp., of Pittsburgh was fired on June 17. The company reported that their May shipments from Canton and Waynesburg were the largest in the history of the plant.

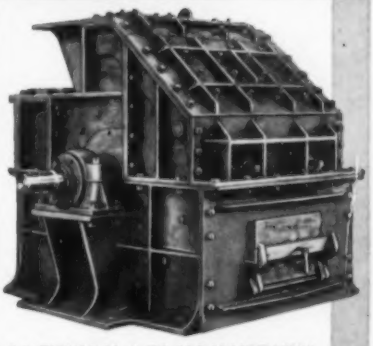
American HAMMERMILLS

offer

HIGH CAPACITY REDUCTION

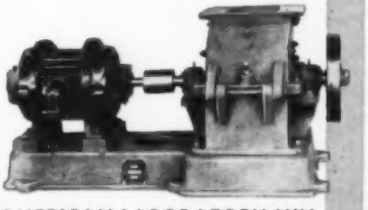
at

LOW OPERATING COST



AMERICAN ACS HAMMERMILL
Capacities to 250 tons per hour

AMERICAN "30" HAMMERMILL
Capacities to 100 tons per hour



AMERICAN LABORATORY MILL
Capacities to 2000 lbs. per hour

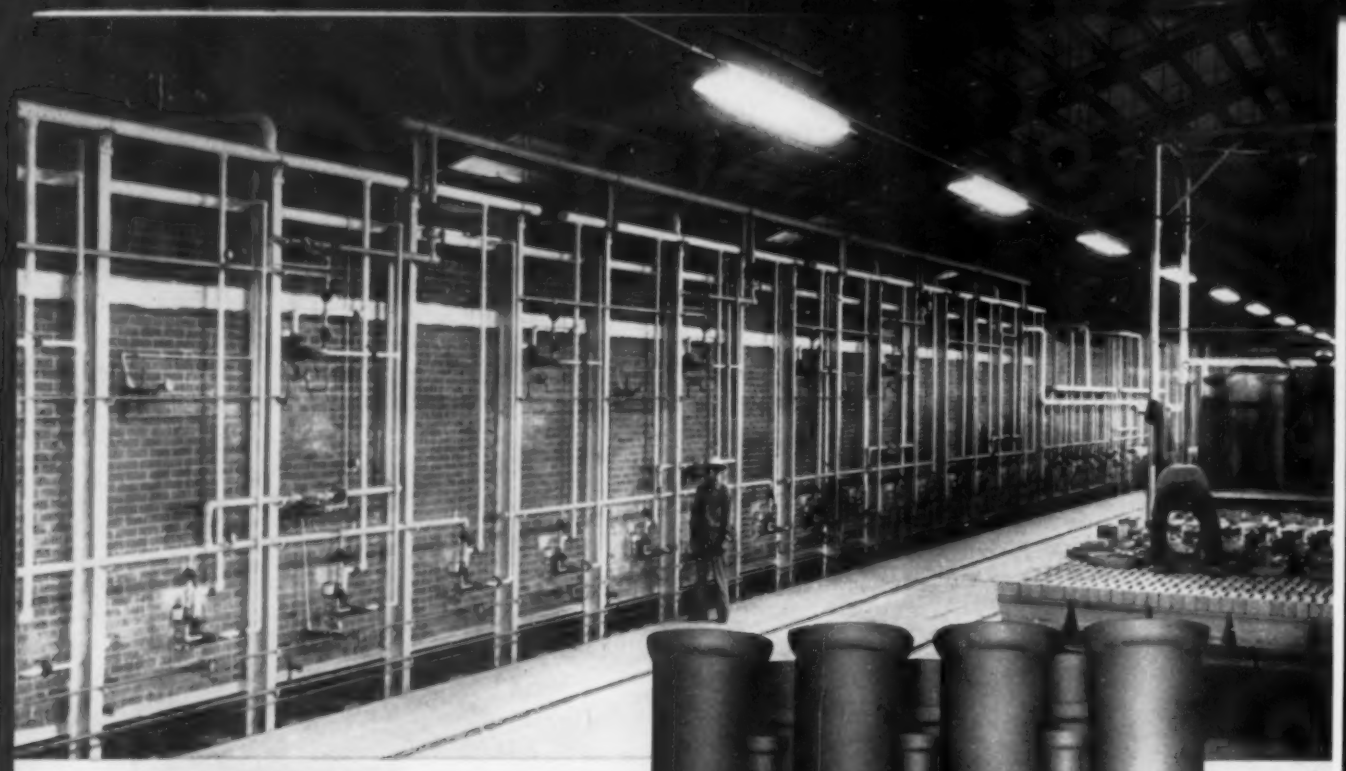
WHAT IS YOUR CRUSHING PROBLEM?

The American Engineering Department will be happy to analyze your reduction problems, make test runs if necessary, and offer specific recommendations. No obligation.

WRITE for complete literature on American Hammermills.

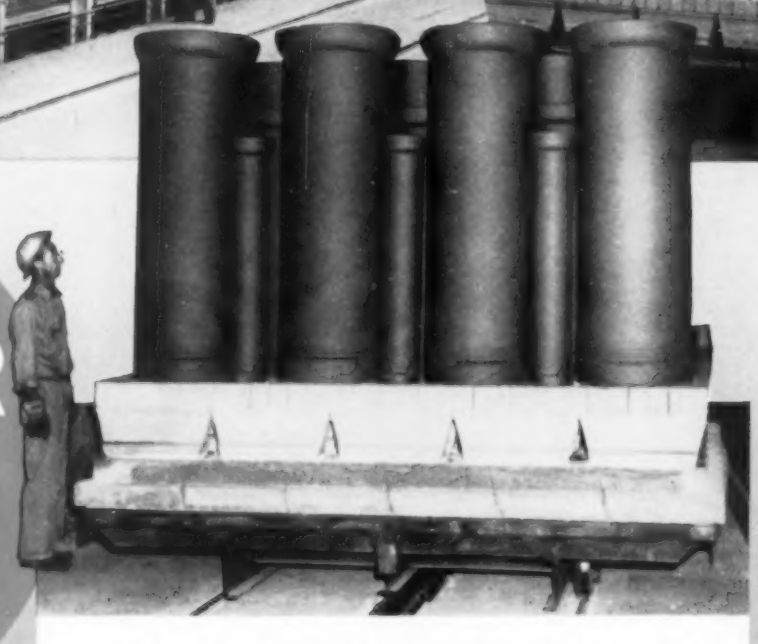
American PULVERIZER COMPANY

1061 Macklind Ave. • St. Louis 10, Mo.



This Big, New
DRESSLER
MULTI-BURNER
KILN

serves PACIFIC CLAY PRODUCTS COMPANY at their Los Nietos, Calif. operations



Burnt ware leaving Pacific Clay Products' new Dressler Kiln

Pacific Clay Products' new DRESSLER Kiln has one of the largest cross sections ever designed for sewer pipe, and presents a remarkable achievement in kiln control—permitting the successful firing of 21" vitrified sewer pipe, 5 ft long, in a kiln only 328 ft in length.

The cars themselves are 10 ft long by 10 ft wide. 16 of the large sewer pipe are accommodated per car, with smaller pieces between, totalling 8 tons of product per car or 100 tons per 24 hours. Loading space is 72" high.

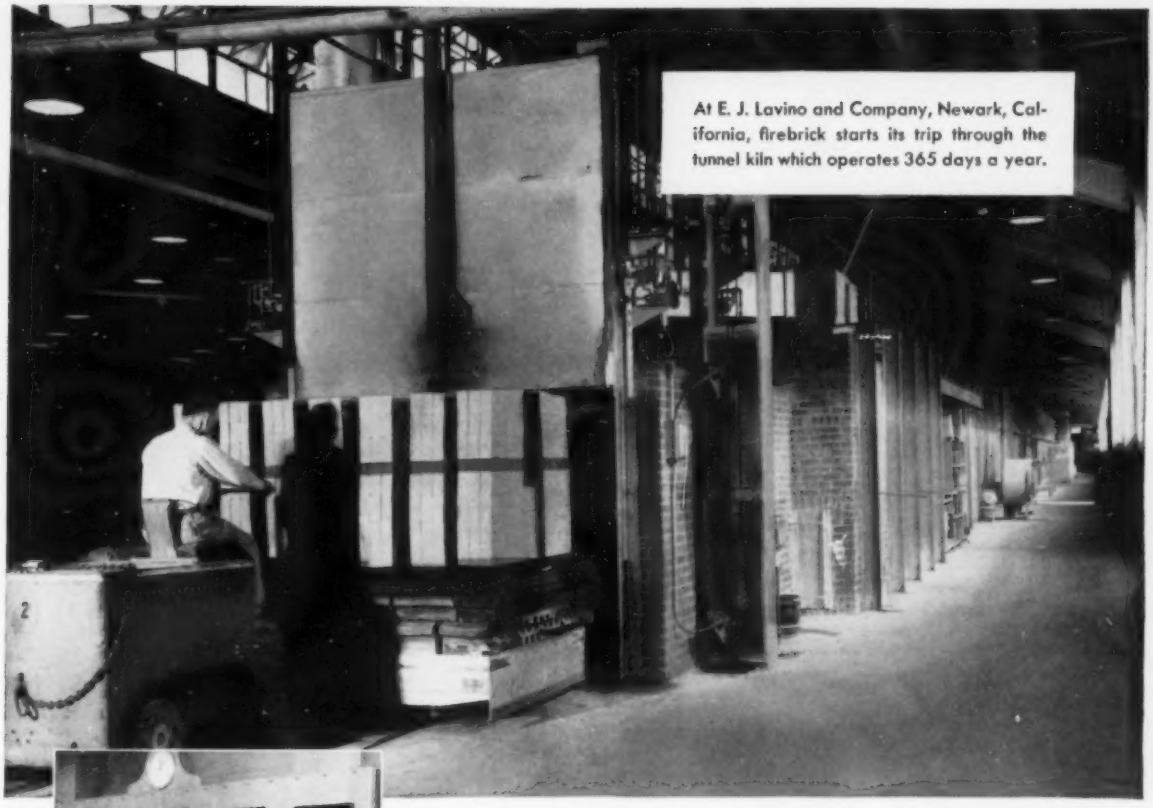
Your inquiries for kiln design and construction on any scale—including precision-controlled salt glazing, if desired—are cordially invited.

Swindell-Dressler Corporation provides a complete engineering service for the ceramic industry in the design and construction of new plants, and modernization of existing facilities. Consultations arranged gladly on request.

SWINDELL-DRESSLER Corporation

DESIGNERS AND BUILDERS OF MODERN INDUSTRIAL FURNACES

PITTSBURGH 30, PA.



At E. J. Lavino and Company, Newark, California, firebrick starts its trip through the tunnel kiln which operates 365 days a year.

Honeywell instruments indicate and control kiln temperature, measure fuel flow, measure and control kiln pressure. These controls require a minimum of maintenance, as E. J. Lavino and Company learned by experience with them in all its plants.

Honeywell controls assure continuous high-quality firebrick production

at E. J. LAVINO and Company

Continuous tunnel kilns operate most efficiently and profitably with automatic controls. They keep costs down, product quality uniform, and rejects at a minimum. Wherever kilns are operated by Honeywell controls—these are everyday benefits.

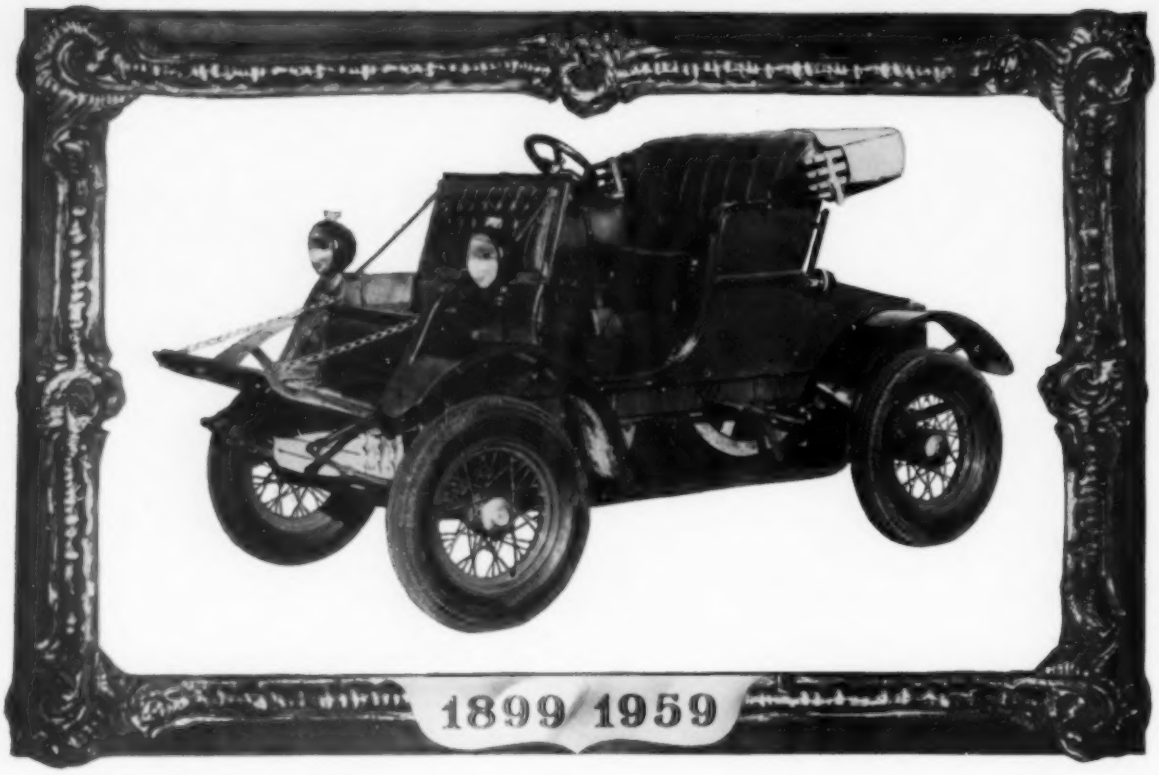
Let Honeywell design a complete, automatic control system for your kiln. Instruments and accessories can be furnished already mounted, with back-of-panel wiring and piping completed. You need only make connections to the measuring and control units and for compressed air and electricity. You can be certain of dependability, for the system will be *all* Honeywell, from thermocouples to panel to valves.

Get complete details from your nearby Honeywell field engineer. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.

Honeywell

H HONEYWELL *First in Control*



Everything's changed but the trademark on the bearings

BUILT by the St. Louis Motor Car Co. in 1899, this car was the first equipped with Timken® tapered roller bearings. It's still running. And today every make of American car but one uses Timken bearings. The things that the trademark "Timken" stands for haven't changed. It still means the highest quality, the best-known name in bearings, and the kind of service you can't get anywhere else. It means better performance with longer life and less maintenance in machine tools, steel mills, heavy construction machinery, farm implements and tractors —wherever wheels and shafts turn.

"Timken" is a registered trademark that identifies all products of The Timken Roller Bearing Company—tapered roller bearings, fine alloy steel bars, seamless steel tubing and removable rock bits.

It's to your advantage to remember that "Timken" is not a type of product. It's your assurance of the best in tapered roller bearings, fine alloy steels and removable rock bits. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "TIMROSCO".

TAPERED ROLLER BEARINGS • REMOVABLE ROCK BITS • FINE ALLOY STEEL

TIMKEN®

first in quality for 60 years

WILLIAMS REVERSIBLE IMPACTOR

- 100% Impact Reduction
- No Friction Or Abrasion
- Unobstructed Discharge
- Less Upkeep Expense

Internal view showing manganese steel impact blocks, hammers and liners. Rugged, heavy steel plate construction. Extra large shafts are mounted in oversize bearings sealed in self-aligning housings.

Lower Cost Crushing And Grinding

Will reduce clay and shale direct from the bank to 8, 10 mesh, or finer, for burned ware. Reduces its own screen tailings. 100% impact action permits reduction of abrasive materials with lower upkeep expense. Material falls *between* the hammers which throw it against the impact blocks, setting up a repeated ricochet action and the reduction is entirely by impact with no wearing, abrasive, grinding action thereby lessening wear on parts. Hammers can be rotated in either direction, rotated to the right today, to the left tomorrow thereby giving double hammer life. Impact blocks adjustable for wear and fineness of product. Finished material is discharged freely which further lessens upkeep expense. A size for every job. Describe your work and let us tell you about one for your use.

WILLIAMS PATENT CRUSHER & PULVERIZER CO.
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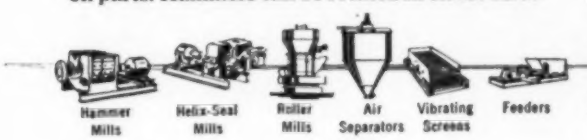
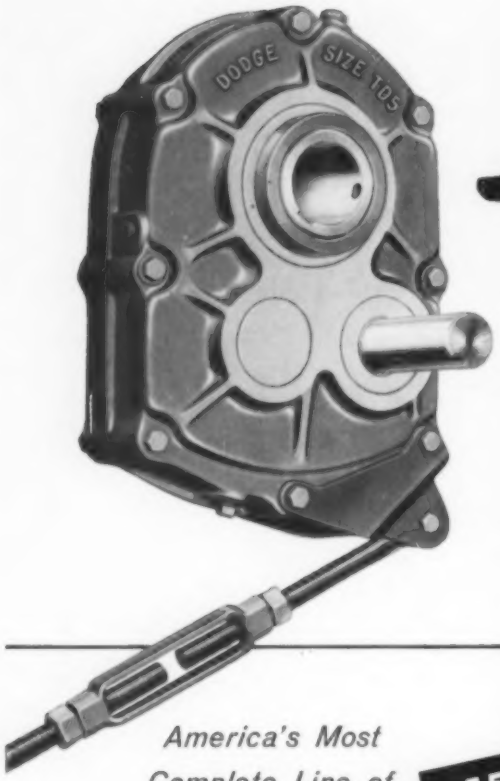


WILLIAMS
CRUSHERS GRINDERS SHREDDERS
Oldest and Largest Manufacturers of Hammer Mills in the World



Torque-Arm

THE DODGE DEVELOPMENT THAT CHANGED THE NATION'S HABITS OF SPEED REDUCTION

America's Most Complete Line of Shaft Mounted Speed Reducers

55 MODELS

- Capacities up to 170 hp
- Output speeds from 10 to 378 rpm!
- Single Reduction
- Double Reduction
- 5 to 1 Ratio
- 15 to 1 Ratio
- 25 to 1 Ratio
- Any speed ratio up to 150 to 1 obtainable by selection of pre-determined combination of reducer and V-belt drive.

CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."

In fewer than ten years, the range of Torque-Arm Shaft Mounted Speed Reducers has increased from 6 to 55 models, to meet the ever increasing demand for this improved method of speed reduction.

By eliminating foundation, sliding base and flexible coupling this modern speed reducer has saved untold installation time and untold dollars of cost.

The rugged semisteel housing developed by Dodge has never been improved upon. It is corrosion resistant—and it has the strength to hold bearing seats in line for the life of the unit.

Dodge design provides wide spacing for the bearings. Loads are carried easily, contributing to Torque-Arm's long life and very high efficiency. The gears are finest quality—helical, heat treated steel.

Torque-Arm mounts vertically or horizontally in any position around the driven shaft. It locks to the shaft on *both* sides of the housing. The holes in the output hub provide simple removal with puller. Overload release and built-in backstop are optional.

Dodge Torque-Arm is America's most widely used shaft mounted speed reducer. It is stocked by your local Dodge Distributor. Ask him. Or write us for bulletin.

DODGE MANUFACTURING CORPORATION, 4900 Union, Mishawaka, Ind.

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of Mishawaka, Ind.

ANNOUNCING...

the biggest, most important Fall Program in Brick & Clay Record's 67 years of publishing

September — AUTOCLAYMATION Issue, featuring all that is new and better in machinery and equipment, for the production of heavy clay products.

October — CLAY MODIFIERS Issue — A complete listing and encyclopedia of the materials used to modify and improve the properties of clays for the production of heavy clay products.

and in November—

A Special Issue Celebrating 25 years of Achievement and Anticipated Progress by the Structural Clay Products Institute (SCPI).

STRUCTURAL CLAY PRODUCTS INSTITUTE 25

Brick & Clay RECORD

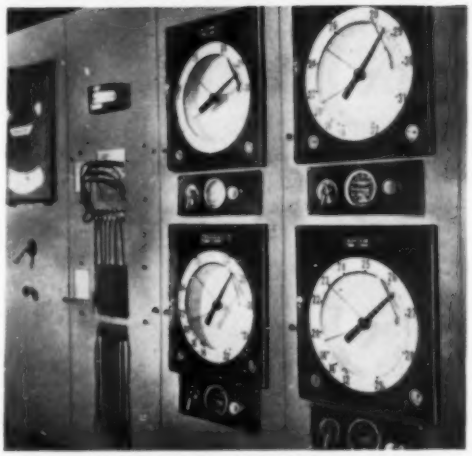
5 So. Wabash Avenue • Chicago 3, Illinois

September

AutoCLAYmation Issue

...THE PRODUCTION OF HEAVY CLAY PRODUCTS BY SCIENTIFIC AND MORE EFFICIENT MEANS AND METHODS...
is the theme of the September BRICK & CLAY RECORD.

It is a most appropriate time for such an issue—at the beginning of what promises to be the biggest boom the clay products industry has ever known. Many manufacturers of brick, structural tile, refractories, clay pipe, lightweight aggregate, and clay block have reached the peak of their production capacities this year, and are now looking for equipment, machinery, materials to increase their production potential and decrease operating costs.



Manufacturers are on the lookout for new equipment and machinery in scores of plants now in the early stages of construction or on the drawing boards, as well as improving present facilities... It's a double barreled opportunity, unparalleled for suppliers and producers alike.

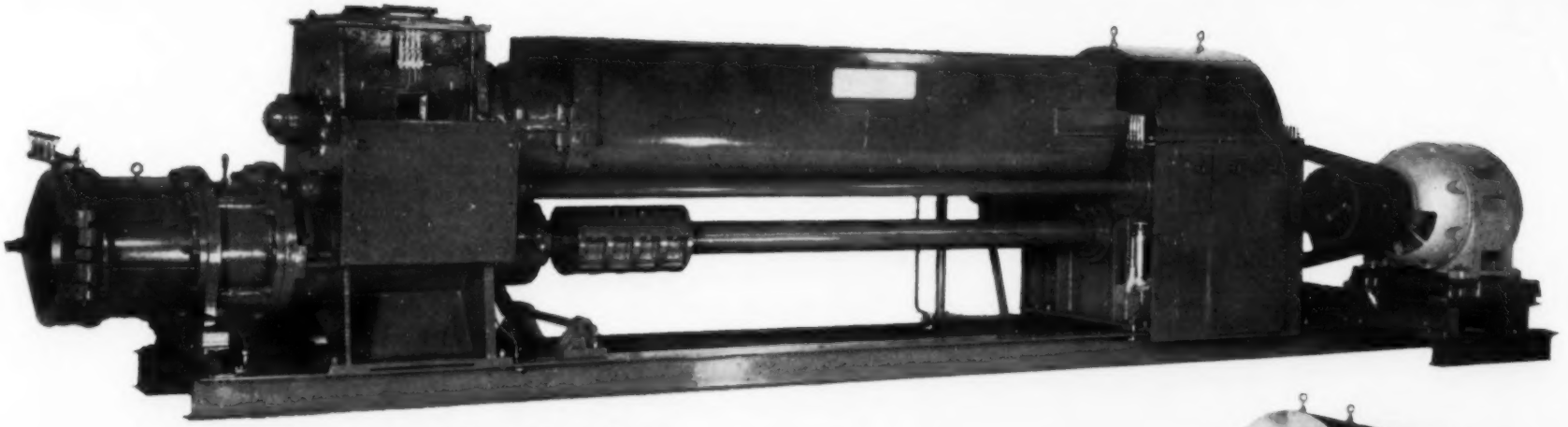
The AUTOCLAYMATION section will include in an entirely new format pictorial and editorial descriptions of the most modern equipment and materials in use throughout the industry, and how manufacturers of clay products are using them to beat production problems... A vital issue both to the supplier and clay products manufacturer!

Brick & Clay RECORD

5 So. Wabash Avenue • Chicago 3, Illinois

- **the only publication exclusively covering the heavy clay products industry*
- **the magazine with editors who have worked in and know heavy clay products manufacturing*
- **paid, "wanted", ABC audited, circulation*
- **a leader in industry progress for 67 years*
- **pioneer in developing industry research programs*
- **undivided, undiluted editorial content for the heavy clay products industry*

DEADLINE ADS TO BE TYPESET—August 24
DEADLINE SPACE RESERVATIONS—August 27
DEADLINE COMPLETE PLATES—August 31



New Chambers

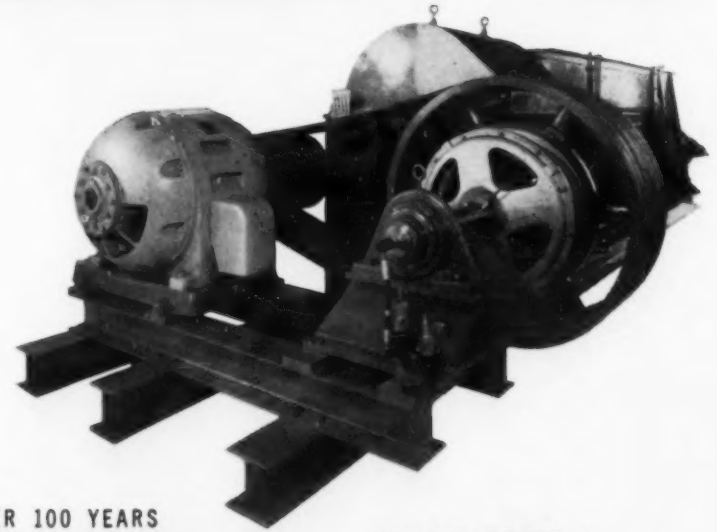
No. 12AC

HI-POWER

"Probably the best combined machine we have ever made . . ."

Built with modern materials new to the field, and with refinements to match 1959 engineering techniques, this great new Chambers machine reflects the experience of tunnel-kiln operations, where breakdowns are intolerable. Shafts and gears are high alloy, 150,000 psi, steel; all barrel sections, adaptor and die holder are solid steel. All gears helical-cut, flame-hardened steel, with a double reduction of Approx. 12:1. Centralized lubrication.

18¾" auger, fed by 21" augers in vacuum case. 12' pug mill tub. Point augers can taper to 16" or 13". These same efficient augers are available in the Chambers #212 with dual drives and optional vacuum pugging. Write for further details.



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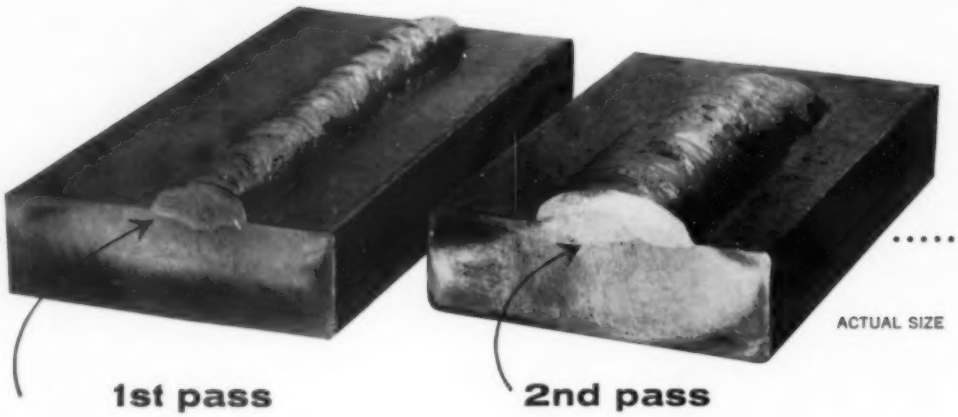

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A MUST for the Industry

One of SCPI's most important tech notes was issued this month. It is the first of four parts of a recommended guide specification for clay masonry construction for the use of architects, engineers and other specification writers.

Every salesman in the industry should make sure that every specification writer that he calls on has a copy of these four tech notes which are Volume 10, numbers 6, 7, 8 and 9. He should make sure that the specification writer understands the superiority of the recommended specifications.

If every specification written were to use this model there would be less controversy about masonry construction, quality of products, how they are put together, kinds of mortar, anchors and ties or storage of masonry materials on the job site. The guide also covers cleaning, waterproofing and painting.

The guide specifications cover the subjects in such detail that the brick salesman will be relieved of some of his "educational" chores of detailing erection procedures, proper waterproofing techniques and will prevent some harmful cleaning methods. He will be able to do more selling.

The wide promotion of these recommended guide specifications will increase the confidence of architects, contractors and owners in the brick industry. The guide makes it apparent that the brick industry knows what it is doing, where it is going, and how to get there.

Using these specifications the designer will think about the quality standards required for brick long before any particular job is up for bids. Thus the brick manufacturer will be able to offer his product with some knowledge of just what will be acceptable and should escape some of the expense connected with last minute changes on the part of others which are often forced onto the brick supplier.

With this guide and the associated A.S.T.M. standards the construction industry can have full confidence in our products and their performance. The industry can have protection from whimsy, ignorance, and indecision, therefore, we say again, these technical notes should be promoted until every specification includes the pertinent sections of the guide.

Acme's Kanopolis Plant Produces Wide Size and Color Range

Acme Brick Co.'s Kanopolis, Kansas plant, only recently acquired, was designed for shipping light colored brick over a wide area. This plant along with one at Great Bend, Kans. brings the total number of plants operated by Acme to 20. Scattered through Texas, La., Ark., Okla. and Kans. the plants cover the southwestern market. The Kanopolis plant is located some 50 miles northeast of Great Bend in the heart of the Kansas gas belt.

Kanopolis was started in 1955 to help meet the demand then being felt for the superior colors of the Great Bend plant. The site was chosen for its rail connections, proximity to an exceptional supply of both buff and red burning clay and of course the ever present natural gas of Kansas. The plant was completed in time to ship brick during the early summer of 1956.

Twelve feet of overburden must be removed to expose the useful clays at the pit which is located some two miles from the plant. After the overburden is gotten out of the way six to eight feet of red burning clay can be removed. This strata is separated from 15 feet of buff burning material by 30 inches of siltstone which is discarded. Work in the pit is done with a 1¼ yard shovel and the clay trucked to the plant some two miles away by a contractor on a ton-mile basis.

Raw clay is stored at the plant in piles unprotected from the weather until it is needed for production. A large grizzly is set at the ground and clay is moved from storage to the raw clay bin with a tracked front end loader. Red and buff burning clays are ground and sized separately and placed in covered storage for later use. The primary crusher, toothed roll is fed with a vibrating feeder at a constant rate. The primary crusher is powered with a 20 H.P. electric motor while the feeder operates from a motor-generator set.

Conveyor Carries Clay to Grinder

A 40 foot conveyor carries the coarse ground clay to a ten foot rim discharge grinder. This unit, an air pressure loaded machine uses 75 H.P. and its discharge is conveyed to a screen that has been converted by the plant operators to gas heat. Two openings were cut into the underside of the enclosure and natural gas burners are lit and all sticking is eliminated. This has worked so well that gas heat has also been applied to the primary crusher with good results.

Tailings are returned to the grinder and fines are moved by conveyor to the 60 x 120 foot clay storage shed. This unit has a conveyor in a dog house on top by which clay can be transferred to any of the four piles maintained. Two bins have been set over the mixing conveyor to hold the buff and red clay. A rubber tired front end loader moves clay from storage to the proper bin and depending on production one or the other or both are operated to place the proper proportions of clay on the belt. Fluorspar, and barium in varying quantities are added to the belt and the whole blend is dumped into a pugger for dry mixing before it is dumped into the conveyor which moves it to the machine room.

Reaching the machine room the premixed material is placed directly into a combined pugger and brick machine. Water is added with the high pressure system and the column extruded under 24 inches of vacuum. The cutter is operating in a normal manner. Norman and roman size brick are cut with a "C" reel.

Kiln Very Capable

Temperatures in the dryer run from 300° on the front end where the warm air enters the dryer from the cooling section of the kiln to 100° in the exhaust end.

The kiln is 275 feet long divided into a preheat zone of 100 feet, a furnace zone of 60 feet and a cooling zone of 115 feet. Two recirculating fans are installed in the preheat zone and provision was made to introduce air from the cooling section into the preheat zone to control crown drift although this feature does not seem to be needed to the extent expected. Typical maturing temperatures are on the order of 2,000° with a schedule of 20 cars a day when burning 45,000 brick, slightly over the design figure for the kiln.

Cars when drawn from the kiln are moved to the unloading area, blocks of brick removed with fork truck

Continued on page 44

Tunnel kiln cars pass under the offbearing belt, pushed by hydraulic pushers controlled from the offbearers hacking station. Here offbearer sets first tie course on runner brick. Runners are positioned so that the cubes of brick can be taken from kiln cars with fork trucks after being removed from the cooling section of the kiln.

Finely ground clay is stored in separate piles in large storage building and when needed is taken with front end loader shown and placed in one of several bins for mixing and forming operations.

Cars holding 2,200 standard size brick are moved into the plant loading area with the help of fork trucks used as tugs. By placing brick in fork truck configuration on the tunnel cars, the cars can be unloaded with minimum delay and brick can be stored until needed for shipment. Color grading and sorting can be done when brick are loaded on cars or trucks.

and put in storage with grading left to the time when the brick are loaded out.

The main building is 625' long and varies from 65' to 110' in width. It like the clay shed and building housing the grinding and screening department is steel framed and sheeted.

Includes Vertical & Horizontal Textures

Production at Kanopolis includes vertical and horizontal textures in shades of red, buff and mixtures producing pink colors. Sizes are varied and in addition to Roman size an Norman brick the plant has had good results sales-wize with Hollow brick for the Mid-Kansas area. The size problem at the plant is complicated by the dual size requirements of the Kansas area.

Like other Kansas plants much of the production is shipped to places where the combination of excellent clays and cheap natural gas do not occur. A great number of shipments are made by rail but deliveries in a 200-300 mile radius are generally made by truck.

Kanopolis is the northern most plant of Acme Brick Co. and was acquired after the Company had established sales offices in Wichita, Topeka, Liberal and Kansas City. After the newest production units were fitted into the Acme pattern the Great Bend office was designated at the sales office for Western Kansas.

The floor of the machine room is higher than the floor of the kiln area so that the brick machine and cutter can set on the floor and let the offbearing belt extend into the hacking area at a height which will allow the cars to pass under the level belt.

Offbearers are able to set cars while standing on the car tops. Provision was made for three car tracks when the plant was designed. Loaded kiln cars are moved by tug to the dryers. This unit is twin tunnel and 150 feet long. Cars are set with 2.200 brick, 15 brick high with the car set in four blocks that can be removed from the car after firing with brick fork equipped fork trucks with out disturbing the block. The six foot ten inch by five foot tunnel cars are pushed through both the dryer and kiln with pushers.

Clay won from pit located some two miles from plant can be dumped directly from trucks into bin located under grizzly shown, or material stock pile on yard can be loaded into the grinding system with the tractor shown in above photograph. Toothed roll located under bin is used for preliminary size reduction of clay.

Planning Cuts Costs at W. S. Dickey

Mechanical aids for pipe handlers have been a strong phase of recent developments at the Pittsburg, Kansas plant of the W. S. Dickey Clay Mfg. Co. In addition to all the lattest devices to ease labor at the plant's new addition, scientific principles of material movement were employed for maximum efficiency.

One of the greatest reductions in labor was made in methods used to handle four foot lengths of eight inch sewer pipe after they were fired in the 450′ tunnel kiln.

Move Cars

Cars are moved from the cooling end of the kiln and placed in the holding area for disposition. Much of the product from this kiln, which was designed for the production of just this one size of pipe, is inspected and removed from the tunnel cars at the plant's automatic jointing machine. In this case, the cars are moved to the jointing area and no further transportation is involved with pipe so scheduled until it is removed from the joint machine.

Ware not scheduled for the jointing department can be placed in storage or, as is usual, loaded directly to trucks from the kiln cars. For material to be shipped immediately, a truck is driven into the car shed and as pipe are inspected they are transferred to the truck for shipment.

The loading crew in this operation is able to stand on the truck bed and the kiln car tops, which are near the same height, and pass pipe a short distance horizontally to make up the order.

Mechanical Assistance Not Used

While this part of the Dickey handling operation has resulted in savings based on good principles of material handling, meachanical assistance has not been utilized as it has elsewhere in the shipping department.

Work Reduction

Pipe removed from the plastic joint machine are subjected to a highly organized program resulting in drastic reduction in work effort. As pipe are ejected from the jointing machine they are placed on a working rack by the two man crew who are assigned to this part of the work. Off loading men inspect the pipe seals after removing the molds from the pipe and roll the pipe to the end of the working rack. When seven pieces have been accumulated the workers move an air-powered hoist over the pipe, engage all seven with a lifting fork and move the group to a strapping jig. The movement is quick and easy as the hoist runs on a rail high enough to be out of the way when the hoist is not in use.

Remove hoisting fork

As the pipe are placed the hoisting fork is removed and the two man work crew proceeds to strap the pipe. The jig has been designed so that the proper spacing of the pipe is rigidly maintained and therefore the straps are not required to be drawn more than finger tight. Precut lengths of steel strapping are placed on each end of pipe, drawn taut and sealed. The strap is placed around the outside of the pipe, the curve of the pipe acting to prevent any concentrated stresses or strains.

The next stage of package construction is the second layer of pipe.

Pipe shipped unjointed are loaded directly from tunnel kiln cars to trucks whenever shipping schedules allow.

Jointed pipe are rolled to holding rack from jointing machine and clusters of six or seven are moved with hoist to strapping jig.

This layer consists of six pieces nestled on the previous seven. The second layer does not require strapping so this step is omitted. The third and fifth layer of pipe are strapped and the seventh may or may not be strapped. When the seventh layer is left unstrapped the number of pipe in the pack is reduced as the pyramid top starts one layer sooner.

When the pack is nine layers high and has perhaps 48 pipe in it, it is removed from the jig by fork lift and moved to storage or to the shipping dock.

Trailer units are loaded from the tailgate with fork trucks from the loading docks. Not only has the storage of 48 pipe packs reduced the

First and ever other following layer of pipe are strapped finger tight.

hard labor required in truck loading, but trailers can be loaded in much less time with mechanical handling. In busy seasons when truck time is at a premium this makes for a greater utilization of trucks.

Dickey has found that a large number of their dealers own fork equipment and in those cases time is also saved on the dealers end of the trip. If mechanical equipment is not available for unloading the straps can be broken and the trailer unloaded in the old manner.

The strapping system has been worked out at the Pittsburg plant by the assistant superintendent, Bob Troughton while the material flow schemes resulted from studies by the company's research department.

Layers of jointed pipe are added to the package until it is seven layers high. All subsequent handling, including loading, is done with fork trucks.

Valentine Fire Brick Co. Expert Reports to B & CR Readers on

Direct Costing for Brick Industry

by Robert S. Seifriz
Valentine Fire Brick Co.,
Woodbridge, N. J.

When we speak of "Direct Costing", we are referring to a Standard Cost System that segregates all so-called "fixed" costs from all "variable" costs, provided both are related to the manufacturing process.

Variable costs vary or change more or less in the same proportion as the production volume varies or changes. Fixed costs are independent from volume; they remain the same and are not influenced by any change in the production level.

As already indicated, the expression "fixed costs" is somewhat of a misnomer, inasmuch as they also include all semi-variable or semi-fixed costs. These specific costs will recur each month in about the same amount, as long as the production level moves within certain percentage figures of the plant capacity. The salaries of the supervisory personnel, laboratory costs, etc. fall into the classification of semi-variable costs. They will remain the same if and when production holds within a given range. A prolonged dip in production, however, would compel management to reduce supervisory and other costs, and these are controllable to that degree. The real fixed costs, such as depreciation, local taxes, fire insurance and rent, are not controllable after the original decision has been made to undergo and accept such costs.

If we combine these controllable or semi-variable with the non-controllable or fixed costs, we are doing so because the total of both cost factors remain, to a fairly close degree, the same each month as long as the manufacturing operations move within a normal range. The semi-variable costs adopt the characteristics of fixed costs within such a range. Since both the semi-variable and fixed costs occur each month and in the same amount, the combination of both could also be called "Period Expenses".

Advantages of Standard Cost System

The Standard Cost System that emerges from the segregation of variable and fixed costs offers many advantages over the old and traditional systems. Up to most recent years, practically all Standard Cost Systems were built on the principle of absorption: namely, the absorption of fixed costs. After all costs directly ascribable to an operation and product are established as variable costs, an effort has to be made to allocate the overhead or fixed costs to the same operation and the same product—in some cases, a rather difficult assignment. It is no secret, that occasionally arbitrary methods have to be employed. There is also the very important task of setting up the normal capacity—the anticipated quantity of brick or products forming the basis for the distribution of the fixed costs. If the normal capacity is 1,000,000 brick per month, and the combined fixed costs $30,000, each 1,000 brick manufactured would have to absorb $30 of the fixed costs.

Everything will work out fine as long as the monthly production volume remains in the neighborhood of 1,000,000 brick, but any marked deviation will cause "under or over-absorbed" fixed costs, which will appear as a volume variance. Since variances become part of the "Cost of Goods Sold" account, these volume variances can play havoc with the profit picture as presently will be illustrated.

In contrast, Standard Cost Systems based on Direct Costing, do not have any volume variances, because only variable costs form the basis on which the inventory value of finished brick is established, while all fixed costs are expensed out each month as they are incurred. Any variance that comes into existence is caused only by deviations of actual variable from anticipated variable costs, and is never due to volume changes. Variances thus originated, immediately indicate the true status of efficiency. Long drawn calculations necessary to separate the volume from efficiency variances are automatically eliminated.

In the following, an effort is made to show and demonstrate some of the advantages of a Standard Cost System based on "Direct Costing".

Better Profit Picture

A. Let us suppose that 1,000,000 brick are manufactured monthly, and sold at an average price of $200 per 1,000 brick; also, that monthly variable costs amount to $90,000, fixed costs to $30,000, and selling and general administration costs to $25,000—

The Profit and Loss Statement will appear as follows:

Based on Absorption Costs:	
Sales—1,000,000 *brick @ $200 per M*	$200,000
Less: Cost of Goods Sold	120,000
Gross Manufacturing Profit	$ 80,000
% of Net Sales	40%
Less: Selling and General Administration Costs	25,000
Profit from Operations	$ 55,000
% of Net Sales	27.5%

Direct Costing . . .

Based on Direct Costing:

Sales—1,000,000 brick @ $200 per M	$200,000
Less: Variable Cost of Goods Sold	90,000
Contribution towards Fixed Cost and Profit	$110,000
Less: Manufacturing Fixed Costs	30,000
Gross Manufacturing Profit	$ 80,000
% of Net Sales	40%
Less: Selling and General Administration Costs	25,000
Profit from Operations	$ 55,000
% of Net Sales	27.5%

The operating profit is identical, because there are no under or over-absorbed fixed costs.

B. Assuming, only 500,000 brick could be manufactured, but 1,000,000 were sold—depleting the finished brick inventory by 500,000,—there would be an under-absorption of $15,000 of fixed costs, because the normal capacity has been set at a production of 1,000,000 brick. The under-absorbed $15,000 would appear as an unfavorable variance in the Cost of Goods Sold.

The profit picture would now be:

Based on Absorption Costs

Sales—1,000,000 Brick @ $200 per M		$200,000
Less: Cost of Goods Sold	$120,000	
Unfavorable Volume Variance	15,000	135,000
Gross Manufacturing Profit		$ 65,000
% of Net Sales		32.5%
Less: Selling and Administration Costs		25,000
Profit from Operations		$ 40,000
% of Net Sales		20%

Based on Direct Costing

Sales		$200,000
Less: Variable Cost of Goods Sold		90,000
Contribution towards Fixed Cost and Profit		$110,000
Less: Fixed Manufacturing Costs		30,000
Gross Manufacturing Profit		$ 80,000
% of Net Sales		40%
Less: Selling and Administration Costs		25,000
Profit from Operations		$ 55,000
% of Net Sales		27.5%

The profit arrived at on the basis of "Direct Costing" remains the same as in sample "A", but the profit based on the absorption system is $15,000 less, although the sales volume did not change. Likewise, the efficiency level in the various manufacturing operations remained the same, otherwise, a variance would have resulted.

C. Supposing again, the only 500,000 brick would be shipped but 1,500,000 were manufactured, there would be an over absorption of $15,000, which would appear as a favorable volume variance if an absorption cost system would be in force. The profit picture would appear as follows:

Based on Absorption Costs

Sales—500,000 brick @ $200 per M		$100,000
Less: Cost of Goods Sold	$60,000	
Less: Favorable Volume Variance	15,000	45,000
Gross Manufacturing Profit		$ 55,000
% of Net Sales		55%
Less: Selling and General Administration Costs		25,000
Profit from Operations		$ 30,000
% of Net Sales		30%

Based on Direct Costing

Sales	$100,000
Less: Variable Cost of Goods Sold	45,000
Contribution towards Profit and Overhead	$ 55,000
Less: Fixed Costs	30,000
Gross Manufacturing Profit	$ 25,000
% of Net Sales	25%
Less: Selling and Administration Costs	25,000
Profit from Operations	$ -0-

As one can see, the profit is $30,000 more if calculated under absorption costing, because only one-half of the fixed cost is used in the Cost of Goods Sold, and this one-half is fully eliminated by the favorable volume variance of $15,000—thus a profit of $30,000, while direct costing shows no profit at all.

Actually, by using absorption costing, a company could enjoy a gross manufacturing profit of $30,000, and profit from operations of $5,000, by not selling a single brick but manufacturing 2,000,000 brick during a monthly period. As absurd as this may sound, it is not only theoretically possible but is actually practiced to a certain degree by some enterprises that manufacture products which can only be sold during certain months of the year—Christmas tree ornaments are an example.

If a system of Direct Costing is in use, there can be no profit without sales; but when the sales take place, the profit will be that much higher. It would seem more advantageous to adhere to accounting principles which do not allow any profit as long as there are no sales, in contrast to one that can and does derive a profit on future sales. Actually, the profit is created by higher inventory valuation, which at times of receding prices, may not only turn out to be an imprudent procedure, but cause embarrassing surprises.

Better Control Over Profit

The main goal of good management is to secure the highest possible profit with the lowest possible costs. Good management also knows that the profit is very much affected by the sales price, sales volume and manufacturing costs. The influence of these three elements upon the profit picture is recognized, but the real significance of any change in these elements is not always fully understood and not easily measured.

Direct Costing eliminates these difficulties and provides an almost instant and accurate explanation of the effect on the profit of any change that may incur, because Direct Costing sets up an additional element by separating variable from fixed costs. Instead of having only the three aforementioned elements, we now have:

1. Sales Price
2. Sales Volume

Continued from preceding page

3. Variable Costs
4. Fixed Costs

These four elements determine the profit. There is an inter-action between them; and change in any of them will vary the profit. The effect of changes in any of them can easily be measured by the aid of the Profit Ratio.

The Profit Ratio

The variable manufacturing costs of each product constitutes a certain percentage of the sales price of the product, and the total of all products sold will average out in a certain percentage figure of the total net sales. If the average of these costs is 45% of the net sales, they will remain at about 45%, no matter how large or small the sales volume is, provided the sales price remains proportionally the same.

After the variable costs are substracted from net sales, there remains 55% which may be called the contribution towards fixed costs and profit.

It can be explained in the following simple formula:

Net Sales	100%
Variable Cost of Sales	45%
Contribution towards Fixed Costs and Profit	55%

The 55% can also be called the profit ratio.

Profit Ratio As A Measuring Stick For The Profit

This formula will serve to recognize any deviation and the cause. It may be readily understood that there will always be deviations, sometimes favorable, sometimes detrimental. The moment one has arrived at the actual profit ratio, the source of any difference from the Standard ratio can almost immediately be discovered.

Suppose, the actual profit ratio is only 50%, the variable manufacturing cost of sales automatically increases to 50%. The first step is to find out if there was an unfavorable manufacturing variance and, if so, how large. It may well be that this unfavorable variance caused the 5% increase in variable cost of sales, which would amount to $10,000 if the sales volume is $200,000. By connecting manufacturing variances directly to cost of sales, it becomes very manifest what such a variance does to the profit. It increases the cost of each 1,000 brick sold by $10, and decreases the profit accordingly.

A variance now changes from being just the result of a comparison between Actual and Standard Costs; it becomes a convincing appeal to all concerned to be more cost conscious.

Let us assume that there was no unfavorable manufacturing variances. In this case, the cause of the difference immediately will be traced to the sales price. Several factors may be involved. Possibly more than the usual quantity of less profitable brick have been sold, depressing the average sales price; perhaps, "Returns and Allowances" were exceptionally large, depressing the net sales; or, perhaps some products have been sold at reduced prices.

The profit ratio may be employed to great advantage in multi-plant enterprises if fast decisions have to be made as to which of the factories should get the nod to increase production to satisfy increased demands.

To prove this point, we may use the following hypothetical example:

Both Factory "A" and Factory "B" manufacture and sell the same product and in the same quantity as presented by the following profit and loss statement:

	Factory A		*Factory B*	
Sales	$140,000	100%	$140,000	100%
Less: Variable Cost of Sales	68,600	49%	71,400	51%
Contribution towards Fixed Costs and Profit	$ 71,400	51%	$ 68,600	49%
Less: Fixed Costs (including Selling and Administration	45,000		41,200	
Profit from Operations	$ 26,400		$ 27,400	
% of Net Sales	18.86%		19.57%	

Factory "B" enjoys $1,000 more profit despite the fact that the operations there contributed $2,800 less towards fixed costs and profit, but the fixed costs are $3,800 lower than those of Factory "A", which may or may not be a meritorious achievement of the management in Factory "B".

Now, if an increase in demand makes it necessary that one of the two factories increase the production and shipments by 50%, which factory should get the go-ahead sign to satisfy the higher demand? The choice will be Factory "B", in almost all instances, where the accounting system does not provide a segregation of variable and fixed costs. Factory "B" seems to be the logical choice, because the percentage of profit to net sales is higher than that of Factory "A".

It would be a poor choice, however, as the following will bear out:

	Factory A		*Factory B*	
Sales increased by 50%	$210,000	100%	$210,000	100%
Less: Variable Cost of Goods Sold	102,900	49%	107,100	51%
Contribution towards Fixed Costs and Profit	$107,100	51%	$102,900	49%
Less: Fixed Costs	45,000		41,200	
Profit from Operations	$ 62,100		$ 61,700	
% of Net Sales	29.57%		29.38%	

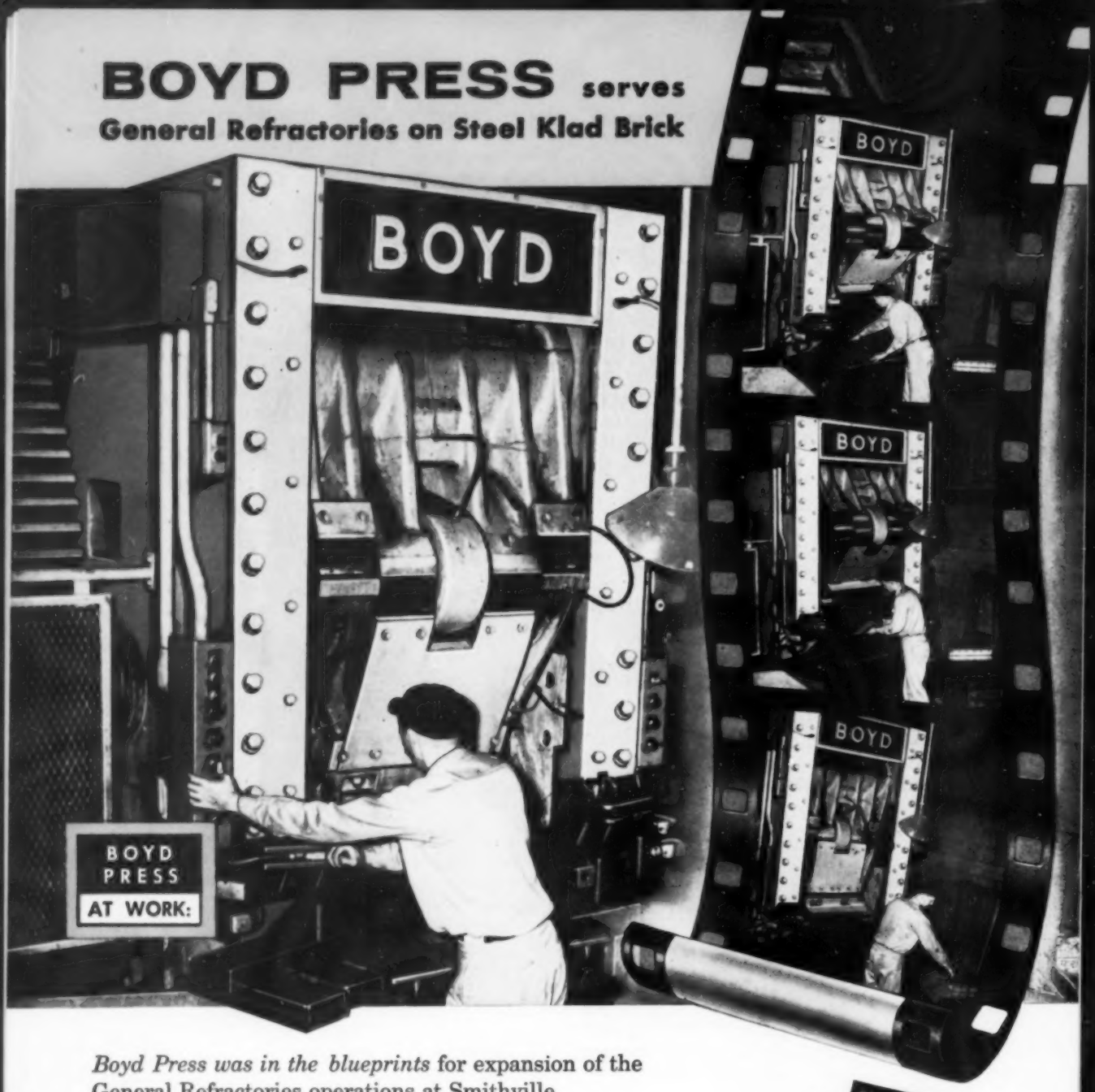
By designating Factory "B" for the increased production, the company actually would lose $1,400 in profit because Factory "A" will increase the profit

from	$26,400 *to*	$62,100 *or*	$35,700
Factory "B" from	$27,400 *to*	$61,700 *or*	$34,300
Difference			$ 1,400

Continued on page 58

BOYD PRESS serves

General Refractories on Steel Klad Brick



Boyd Press was in the blueprints for expansion of the General Refractories operations at Smithville, Ontario. This new, heavy-duty Model Y press was recently put to work on steel encased basic brick. *Boydamatic* controls make the new unit particularly responsive to the needs for *Steel Klad* brick—as well as flexible for use on other requirements.

Over 800 tons of dependable, working pressure gives General the kind of intensive, but controlled compaction power that make the new Model Y the *best Boyd yet!*—for heavy-duty pressing requirements.

WRITE FOR BULLETIN

A new bulletin on the Boyd Press provides dimension data and specifications on both Model Y and Model X. *Boydamatic* control is described and photos show the Boyd Press at work all over the country. Write for your copy.

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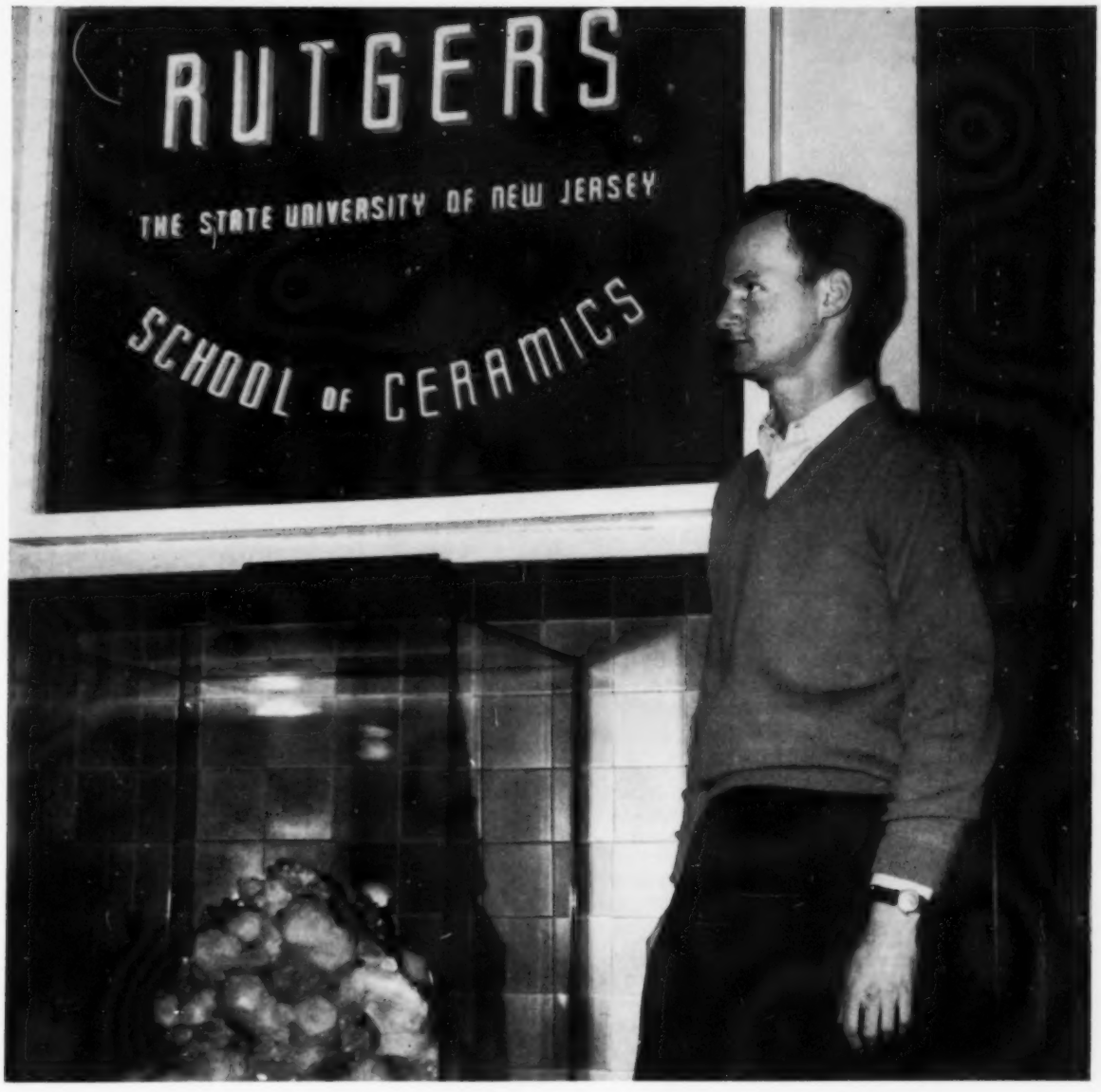

Rutgers University Proud of Their Ceramic School

The School of Ceramics at Rutgers, The State University, was founded in 1902 by an act of the State Legislature "to provide for the establishment of a course in practical and scientific instruction in the art of clay-working and ceramics." This was the result of the demand and interest on the part of the ceramics industry in N. J.

The New Jersey ceramics industry, first associated as the New Jersey Clay Workers' Assn. and later as the present Ceramic Assn. of New Jersey, has played an important part in the growth of all ceramic activities at Rutgers. The present Ceramics Building, erected in New Brunswick in 1922 from New Jersey ceramic products,

was the outcome of the Assn's. complete support. Its continued interest and participation have provided for a more extensive academic and ceramic research program at the School. The Ceramic Association of New Jersey headquarters are located at the Rutgers School of Ceramics.

An extensive research program, including problems in all fields of ceramics, has been made possible through co-operative grants and projects from individual companies, foundations and government agencies. The research work is completely integrated with both the graduate instruction and, as much as possible, with undergraduate instruction. All of the graduate students and a high percentage of the undergraduate students work on one or more of the research projects.

Three Different Curricula

There are at present three different curricula in ceramics which can be elected; ceramics (four year program), ceramic engineering (four year program), and ceramic engineering (five year program).

The ceramics curricula stresses the fundamental physical sciences, physics, physical and structural chemistry as applied to ceramics. This program includes four years of chemistry including the ceramic chemistry series and also four years of physics including atomic and nuclear physics. The ceramic chemistry courses include study of structure of glass and crystal chemistry. A number of the engineering sciences are of necessity excluded from this program since the greater emphasis is more for the high temperature physicist or chemist oriented towards ceramics. This background prepares the student better for the basic research in various fields of ceramics and also for graduate research.

Excellent Four-Year Program

The four year program in ceramic engineering includes the various engineering sciences and prepares the graduate for applied problems involving ceramic engineering processes and design. The same engineering course content is included in the five year ceramic engineering program, however, sufficient social-humanistic courses are also included so that the student can complete the requirements for M.S. degree in ceramic engineering as well as a B.A. degree from the College of Arts and Sciences.

Dr. John H. Koenig
Director

The problem of low ceramic enrollment has been of concern to many schools. Although enrollment at the Rutgers School of Ceramics has always been relatively low, it was decided that this should be increased in view of the demand for ceramic graduates. Through the efforts of the Trenton Section of The American Ceramic Society, the Ceramic Association of New Jersey, and school staff members, current enrollments have averaged 100-125 students. These figures include graduate students. There has been an increasing interest in graduate research in ceramics. The number of graduate students has varied between 20 and 30 in recent years. Graduates of other disciplines, physics, physical chemistry, chemical engineering, etc., are also considered for admission and with the proper orientation appear to do very well in the graduate research program in ceramics. There appears to be a steadily increasing demand for ceramic graduates holding M.S. and Ph. D. degrees.

Social Calendar Too

The student branch of The American Ceramic Society at the Rutgers School of Ceramics has had an active year including both social and technical events. The social activities included a Christmas party and a spring picnic. A number of evening technical lectures were presented by the following: G. C. Betz, Metal and Thermit Corporation, New York, N. Y.; C. L. Snyder, General Ceramics Corp., Keasbey, N. J.; G. N. Howatt, Gulton Industries, Inc., Metuchen, N. J.; Herbert Insley, Vice President of The American Ceramic Society, and R. R. Danielson, Special Lecturer of The American Ceramic Society.

Lecturers from Many Places

Other lectures presented before the senior seminar and which were attended by members of the student branch were given by: J. H. Frye, Jr., Oak Ridge National Laboratory, Oak Ridge, Tenn.; R. B. Sosman, Rutgers School of Ceramics; O. R. Stach, Carborundum Co., Perth Amboy, N. J.; C. W. Burger, Harbison-Walker Refractories Co., Pittsburgh, Pa.; G. H. Spencer-Strong, Pemco Corp., Baltimore, Md.; L. W. Steiger, Maywood Chemical Works, Maywood, N. J.; Irwin Gordon, R.C.A., Princeton, N. J.; Bernard Schwartz, R.C.A., Somerville, N. J., and Rolland Tucker, Trenton Potteries Co., Trenton, N. J.

June Graduates Listed

The 1959 June graduates and their affiliations are as follows: Sheldon I. Cohen, Military Service; John A. Essink, American-Standard Corp., Trenton, N. J.; Peter L. Fleischner, Military Service; Raymond E. Jaeger, Bell Telephone Laboratories, Murray Hill, N. J.; Lewis H. Karpf, The Charles Taylor Sons Co., Cincinnati, Ohio; Philip J. Koechlein, National Guard; Donald S. Pasternak, Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.; Raymond M. Pietras, The Charles Taylor Sons Co., Cincinnati, Ohio; Joseph F. Platz, Isolantite Mfg. Co., Sterling, N. J.; David R. Reid, Harbison-Walker Refractories Co., Pittsburgh, Pa.; Robert Rothstein, Sprague Electric Co., North Adams, Mass.; Alfred W. Seiffert, Oak Ridge National Lab., Oak Ridge, Tenn.; Donald R. Ulrich, Graduate Work Rutgers School of Ceramics; George H. von Schoenberg, St. Lawrence Ceramics Ltd., Quebec, Canada; George L. Wait, Dept. of Chemical Engineering, Columbia University, New York, N. Y.; and Alan M. Woodward, Graduate Work, Rutgers School of Ceramics.

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Presented at 1959 ACS Convention

Effective packaging which is accomplished on an economical basis does not just happen, and there are few manufacturers who have been fortunate enough to stumble on a desirable packaging program. Regardless of what the purpose is for adopting a packaging program, successful packaging of any product should be planned. This planning applies to the many aspects that determines the type of package that will be adopted and the manner in which packaging in question will be accomplished.

Basically, there are two main reasons why any packaging is done; either because the manufacturer will profit by unitizing his product or products for his own mechanical handling or conveyance of his product in yard handling, truck or carloading, unloading of truck at destination; or because of customer's demands. Of course, there are many other reasons why any effort is made to package or unitize one's product. Overcoming seasonal yard storage problems, providing protection to the ceramic products against damage and weathering, and furnishing a more attractive display of one product are some of the other more predominent reasons for packaging.

Has Own Conditions

In addition to some of the basic reasons for packaging just mentioned, each manufacturer has his own set of conditions that has or should govern which is the most suitable type, size or method of package for his particular product. As we all know, brick, sewer pipe, and tile products are presently being put up in a multiple of different type, shape and size packages; each of which fulfills overlapping functions under different sets of conditions.

Regardless what experience other plants have with certain types of packages and packaging systems, each plant should analyze its own objectives before adopting any packaging program. The different set of conditions that influence what type, shape and size package that will readily permit the desired functions to be attained, vary from plant to plant. The factors that determine which is the most advantageous package and method of packaging that should be adopted by an individual plant are the size of plant, type of customers and their demands, type of plant operation and flow of the finished product, existing type of material handling equipment, the manner and distance in which the product is hauled, and the type of truck unloading equipment available (if any).

Must Analyze Handling

Once a manufacturer has selected what he considers to be the most functional type of package to serve his purposes he must analyze how this package will be handled by himself as well as his customers, provided his customers are equipped to take advantage of handling this form of unitized product. Such things as weight, capacity, type and size of material handling equipment, type of terrain package must be conveyed over, and yard storage by this type of equipment are some of the things that must be analyzed so that the type of package and material handling equipment utilized coincide. Once it is felt that the type of package and material handling aspects have been fully taken into consideration one should immediately determine to what extent their production and by what method the product should be packaged.

Of course, it stands to reason the greater amount of one's production that will be packaged under any given system, the lowest per-unit packaging cost will result. Under any well-planned packaging system the product will be packaged with the least amount of conveyance or individual product handlings involved. This may result in utilizing inexpensive mechanical aids which provide labor-saving features while assuring that the product is being stacked or packaged in the most economical and trouble-free manner. Each phase and each procedure followed in putting up a unitized package should be fully analyzed to see that the easiest and most essential techniques are being employed in the most effective manner. A re-appraisal of the job duties involved may show that it may be wise to utilize further simple mechanical jigs or fixtures on up to some of the more highly mechanized packaging equipment now being utilized by various manufacturers.

Cost is Prohibitive

Packaging which is accomplished in a haphazard way to fulfill certain orders or to alleviate certain plant seasonal material handling problems often results in the product being packaged at a very prohibitive cost. The unitizing of a product on this limited basis often becomes a job oddity with no planning behind it. When a given percentage of one's production is continually being packaged, a system can be utilized which will assure that packaging will be accomplished at a definite place and in a definite manner and by utilizing the most beneficial wire or strapping unitizing equipment.

As mentioned earlier, the ceramic product or products should be unitized as near to the original point of kiln-

burning as can conveniently be accomplished. Any time that a product has to be re-conveyed to a centralized packaging area or station, an added indirect packaging cost has resulted, although there are cases when this is the most feasible approach.

The question often comes up as to why one manufacturer can package his product in the same given type and size package at a much lower per-unit cost than his competitors in the same area servicing the same markets. Although it is often questioned how reliable the different manufacturers' claimed packaging costs actually are —there are cases where one's costs are almost double that of another manufacturer's putting up and shipping the same type package. Both of these manufacturers are often using the same type of unitizing materials so their unitizing material costs are identical. An investigation of similar situations has shown that the cost differential usually is a result of the number of individual product handlings prior to being packaged and secured by the unitizing agent.

Package Immediately

Modern plant layouts and facilities make it more advantageous to accomplish packaging almost immediately after the products are removed from the burning kilns. Contrary to this, some poorly laid-out plants utilizing uneconomical packaging practices may have to handle their product a multiple of times before the same unitizing procedures can be accomplished. It is remarkable the progress that has been made in designing and building recent automated and semi-automated brick and pipe producing plants and in many respects is an engineering marvel when compared to previously designed brick and pipe manufacturing plants. However, there appears to be little consideration or planning given as to how a product will be handled once it is made. More consideration should be given when a plant is in a design stage as to how the shipping and loading areas will conform to the future adopted packaging or material handling system.

For those plants who are contemplating packaging a substantial amount of their production it is very conceivable that they will be able to take advantage of some of the various automatic packaging machinery now available. Some of this equipment which has been pioneered in the brick industry is the mechanical equipment being utilized to facilitate brick packaging at Burn's Brick Company, Denver Brick and Tile Co., Owensboro Brick and Tile Co., Des Moines Clay Products, etc. Although some of these machines presently being used, vary in design and arrangement in accordance with plant product flow, their basic function is primarily to increase the productivity per man in the accomplishment of packaging one's product or products.

Although these machines fulfill other functions, the productivity times the number of men working with or at any individual packaging machine must be high enough to offset the initial cost and operating expense of this machinery. Although the individual packaging machine presently being used by the above mentioned manufacturers is said to be economically justified, there are no duplications of the individual machines being utilized or are there any indications that these machines could be economically utilized by other plants.

Manual Stacking Time Consuming

In packaging brick, eighty to eight-five per cent (80 to 85%) of the total packaging time is involved in the manual stacking of the brick while the remaining time is basically consumed in inserting and applying unitizing materials. Therefore, the biggest constructive feature that can be contributed to reducing over-all packaging time and cost is to improve the brick stacking simplicity and over-all potential productivity. Some of the things that help fulfill this desired situation are: limiting the mass movement through distance while stacking brick, simplified stacking pattern, minimum insertion of protective packaging materials, working uninterruptedly and packaging under some incentive plan. Most of these things have been successively accomplished with the utilization of the packaging jigs placed on packaging platforms.

The packaging productivity per man utilizing these packaging stations ranges from 14,500 to 16,500 brick per man in an eight hour or less day. This does not include the men being utilized to convey brick or brick packages with fork-lift equipment. From all reports there is little evidence to indicate that this rate of brick packaging productivity per man is being exceeded in plants utilizing the more expensive and highly mechanized packaging equipment. The mechanized equipment presently being utilized and that equipment which is in the development design stages certainly are stepping stones to the ultimate stacking and packaging machines which will certainly be perfected in the future.

It would behoove those manufacturers contemplating adopting a packaging program or in hopes of improving their present packaging program to call on the services of one or more of the number of suppliers furnishing unitizing materials to obtain all the technical and experimental assistance that would be required to insure that the most adequate and functional package and packaging system is being utilized. By thoroughly seeking out all applications being followed by manufacturers around the country the inquiring firm will be in a better position to evaluate and decide which packaging system would fulfill their desired objectives. Unitizing material supplying firms enthusiastically encourage the opportunity to work along with any manufacturer in exploring the possibility of improving or developing an advantageous packaging program. In addition they appreciate any constructive criticism on present unitizing equipment or suggestions for improving the same.

Who Absorbs Cost?

Who should absorb the cost of packaging? This is a question often asked and often argued. Although there are many that could profit by handling the packaged units of brick, sewer pipe or tile, there are a number of factors that determine to what degree and extent the manufacturers, dealers, and contractors will profit by

packaging. There are cases where the cost of an effective packaging program can be absorbed solely by the manufacturer as a result of reduced handling cost and other tangible benefits received from packaging even before the dealer and a contractor receive their benefits. And yet, there are other cases where the manufacturer would obtain a little benefit from packaging but the savings attainable for the utilization of packaged units by dealers and contractors would easily permit them to absorb any additional packaging cost imposed on a manufacturer. In almost all cases, it is more feasible for the manufacturer to accomplish the packaging of his products regardless of whether or not he can take advantage and profitably utilize the package units. He initially has to handle the product manually. Once anyway, and theoretically it doesn't take much longer to stack a unit of brick for packaging as it would to stack them in a bulk, ununitized manner. Therefore the only additional cost to be absorbed would be that of the unitizing materials and components and their cost of application.

Fallacy in Thinking

There is some fallacy to this thinking if the packages in question are being shipped to such great distances where abnormal deterrent conditions would be imposed on these packages. In this case, the packaging would have to be so effective that more unitizing material agents would have to be utilized to insure safe arrival conditions at destination. This additional form of protective packaging could easily result in an overpackaged unit whereby a manufacturer was paying considerably more per unit cost than that of a less protective package being shipped over a shorter and less critical distance. In this case dealers have found that they can put up and handle a more economical type unit than the manufacturer could ship.

Better Self Equipping

More and more contractors are taking advantage of handling package units of brick, sewer pipe and tile in conveyance around the job sites, and more and more of these contractors are equipping themselves to properly handle these packaged units and thereby reduce their over-all handling cost. In fact, there are some contractors who have claimed to have saved from 10 to 20% on their over-all ceramic pipe-laying and masonry cost. Although some pioneering work has been done in this field, there is an unawareness by some contractors, in the potential savings to be derived, by the utilization of simple and inexpensive equipment in conveying package building materials around the job site.

It was noted recently in Seattle where a number of the one-floor campus type school buildings were being constructed, that brick were handled as many as four individual times in being placed in the inner-partition wall areas of these buildings. The "hod carriers" were receiving in excess of $3.00 per hour under union scale. One can readily see that in handling brick individually at a cost of .05c per minute the labor saving potential attainable through effective employment of material handling techniques. In addition to the cost of individual manual handling of brick, a repeated number of times, the brick sustained an absorbent amount of chippage and defacing through these repeated handlings.

What is best Device

The question is often asked, what is the most functional and effective mechanical material handling truck unloading device for equipment? The merits of utilizing the different type mechanical truck unloaders vary from plant to plant. Such things as type of terrain, type of packages being delivered, distance of haul, size of truck, ratio of equipment weight to truckload capacity, type of customer and size of orders fulfilled, and initial equipment cost are some of the main points to be weighed on the proper selection. Probably on a long term basis it is more profitable to incorporate the mechanical unloading equipment on a larger and heavier duty trucks which can deliver a larger pay load. The added expense of this heavier-duty truck can easily be amortized over the larger pay load when it is realized that almost the same truck operating costs and operator's salary are absorbed with the utilization of either the small or large truck. The added durability of the large truck alone speaks for itself.

Number of Problems Involved

Most of the foregoing principles of effective packaging apply to the packaging of sewer pipe and tile as well as brick. Of course, there are a number of problems involved with the ever-increasing percentage of sewer pipe being pre-applied with joint compound at the manufacturing plants which have led to the greater need for protective packaging of this type of pipe. There are are many areas which, because of local characteristic of clay ingredients, find that their pipe cannot withstand very much hauling abuse and are readily chipped or broken in transit. There are some effective measures that can be taken to retard the ocurrence of this type of breakage in these packages, but some of these measures become prohibitive, cost wise. Perhaps the most feasible approach to rectifying this breakage problem of either truck-loaded bulk or packaged pipe and tile is to incorporate an effective shock absorbsion sysetm on the bed of the truck or trailer. Certainly the potentiality of solving this problem should be taken up with the trailer manufacturing people.

Conclusion

To sum up, an effective and functional packaging system does not just happen, but it must be custom-engineered so that the adopted type, shape and size package and the method of accomplishing this packaging comes closest to providing the desired direct and indirect economic results.

Continued from page 49

Let us be confronted with the following situation:

The Sales Research Department comes to the conclusion that a cut of 10% in sales prices would assure enough added shipments so that the present profit picture would remain intact. How much must the new sales volume be, and how many more brick must be sold to make this possible?

Present Shipments and Profit:

Sales—1,000,000 *Brick @ $200 per M*		$200,000—100%
Less: Variable Cost of Goods Sold		90,000— 45%
Contribution towards Fixed Costs and Profit		$110,000— 55%
Less: Fixed Costs—		
Manufacturing	$30,000	
Selling and General Administration	25,000	55,000
Profit from Operations		$ 55,000

Effect of 10% Reduction of Sales Price:

Reduced Sales Price per 1,000 Brick	$200 *less* 10% =	$180 — 100%
Variable Cost of Goods Sold	45% *of* $200 =	90 — 50%
Contribution towards Fixed Costs and Profit		$ 90 — 50%

At the former selling price of $200 per 1,000 brick, the contribution towards fixed costs and profit is—$110,000. In order to reach the same amount at the lower price level, the sales dollar volume must be—

$110,000 ÷ 50% or $220,000

and the necessary quantity of brick shipments would be—

$220,000 ÷ $180 or 1,222,222 brick

an increase of 222,222.

Hence, a reduction of 10% in sales price requires an increase in quantity of 22.22% in brick shipments, in order to keep the profit at the same level.

The use of percentages representing the variable manufacturing cost of sales and the profit ratio, leads to much broader scope and important possibilities which may be exploited to great advantage. One of the most outstanding is the easy and ready manner in which the "Break-Even Point" can be calculated. To illustrate:

Sales		$200,000—100%
Less: Variable Cost of Goods Sold		90,000— 45%
Contribution towards Overhead and Profit		$110,000— 55%
Less: Fixed Manufacturing Cost	$30,000	
Selling and General Administration Expenses	25,000	55,000
Profit from Operations		$ 55,000

The total fixed overhead, which includes Selling and General Administration Costs, amounts to $55,000.

The profit ratio is 55%—

The "Break-even Point", therefore, is—$55,000 ÷ 55% or $100,000.

This means that $100,000 worth of brick first must be sold before thoughts of profit can be entertained.

PROOF:

Sales	$220,000
Less: Break-even Point	100,000
Remaining Sales from which to derive a Profit	$100,000
Less: Variable Costs—45% of $100,000	45,000
Profit from Operations	$ 55,000

The necessary quantity of brick shipments to cover the "Break-Even Point" would be:

$100,000 ÷ $200 or 500,000 brick

The problem of arriving at the necessary quantity of brick shipments to cover the "break-even point" is, of course, never as simple as just demonstrated, because in all probability, a part of the net sales will consist of products other than brick. Yet, it should not be much more difficult to find the quantity of brick and the sales value of other products necessary to cover the "break-even point", as demonstrated by the following:

Brick Sales—1,000,000 *brick @ $200 per M*	$200,000	
Sales of other products	50,000	
Net Sales		$250,000—100%
Less: Cost of Goods Sold	112,500	
Contribution towards Fixed Costs and Profit		$137,500—55%
Less: Fixed Costs	55,000	
Profit from Operations		$ 82,500

The "Break-Even Point" sales dollars would be:

$55,000 ÷ 55% = $100,000

PROOF:

Sales	$250,000
Less: Break-even Point	100,000
Remaining Sales from which to derive a profit	$150,000
Less: Variable Costs—45% of $150,000	67,500
Profit from Operations	$ 82,500

Now, in order to establish the quantity of brick needed to cover the "Break-even Point", one may assume that the total net sales of $250,000 consisted of 1,000,000 brick only, and the sales price then would be $250 per 1,000 brick.

$100,000 ÷ $250 *or* 400,000 *brick or* 40% *of* 100,000 *brick*

PROOF:

400,000 *Brick @* $200	$ 80,000
Sales other than Brick 40%	20,000
Total	$100,000

The sales value of other products necessary to aid in covering the "Break-even Point" is automatically 40%.

This calculation is based on the presumption that variable cost of sales of products, other than brick, is also 45% of the net sales. If the total variable cost of goods sold should be 50%, and the 5% increase was due to

Continued on page 63

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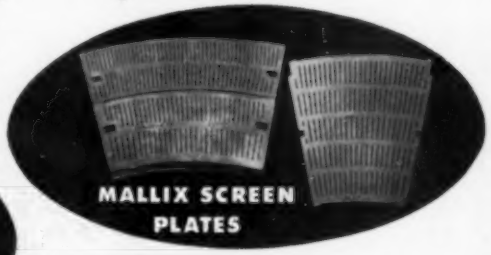
for transmission belting.

SCANDINAVIA BELTING COMPANY
112 KESWICK AVENUE, (P.O. BOX 949)
NEWARK • CHARLOTTE 1, N. C. • CLEVELAND

USE MALLIX SCREEN PLATES and GRATE BARS

for Outstanding Performance...

● Mallix plates and bars are made from a specially heat-treated material. Tough but not brittle, they stand up under severe service without breaking—will outlast all ordinary types. A-8000



Since Mallix plates are harder and stronger than most, slots can be more closely spaced. Uniform sizing is assured by their smooth, clean openings. Their tapered slot design keeps material flowing freely.

Mallix finger bars give uniform air distribution and have excellent self-cleaning properties. Can be furnished for any desired slot openings.

Tough Mallix grate bars will give you economical grate bar cost per ton of light-weight concrete aggregate. Straight slot, pinhole or herringbone type bars are available.

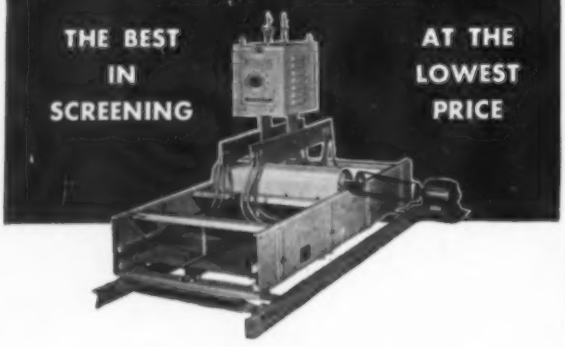
NATIONAL Products FOR TRANSPORTATION AND INDUSTRY EST. 1900

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY
CLEVELAND 6, OHIO
SCREEN PLATES • GRATE BARS • PALLETS • PALLET WHEELS • PALLET SIDE PLATES • PUG MILL BLADES

UNIVERSAL

THE BEST IN SCREENING

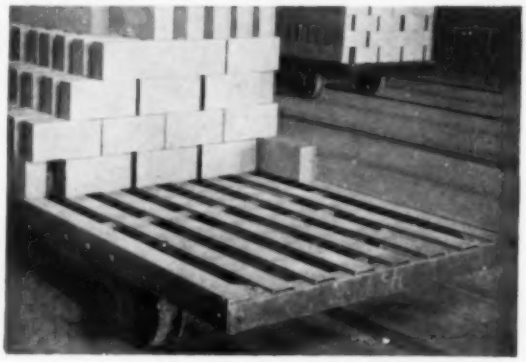
AT THE LOWEST PRICE



The Most Modern and Efficient Electric Heating Equipment SURPRISINGLY LOW IN COST

Be sure to get the facts regarding the new improved Universal Screens and Unilec Heating! Just ask for catalog #150.

UNIVERSAL VIBRATING SCREEN CO.
Racine, Wisconsin
Quality Screens Since 1919



IN PLANT OF ILLINOIS CLAY PRODUCTS CO., GOOSE LAKE, ILL.

CHASE DRYER CARS

Cost Less...Last longer

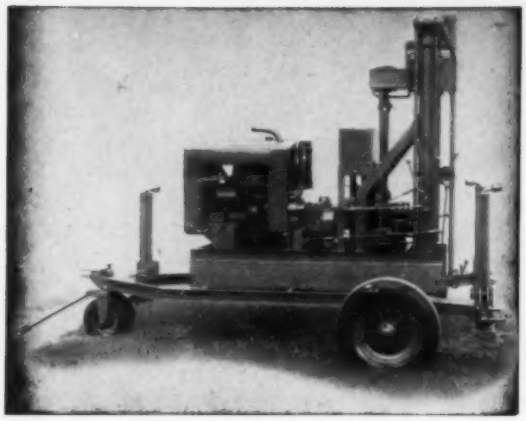
Fast, smooth-rolling, trouble-ree service is built into every Chase dryer car. Initial investment and maintenance costs are low. Chase equipment is used on 80% of clay products plants. Send your specifications and requests for literature to Chase.

Chase
INDUSTRIAL CAR AND TRUCK BUILDERS FOR OVER FIFTY YEARS
FOUNDRY & MANUFACTURING CO.
2300 PARSONS AVENUE • COLUMBUS 7, OHIO

IN MINUTES . . . INSTEAD OF DAYS

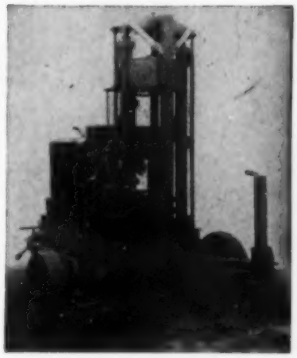
Samples obtained from depths up to 100 feet with the all new

Parmanco



Model HV-172
Hydraulic Vertical Drill

- HEAVY DUTY
- FOUR SPEED AUGER
- FINGER TIP CONTROL
- 65 H. P. MOTOR
- ALL DRIVES MOUNTED ON TIMKEN ROLLER BEARINGS



RUGGED COMPACT EASY TO OPERATE

THREE LEVELING JACKS TO INSURE STRAIGHT HOLES. FIELD PROVED

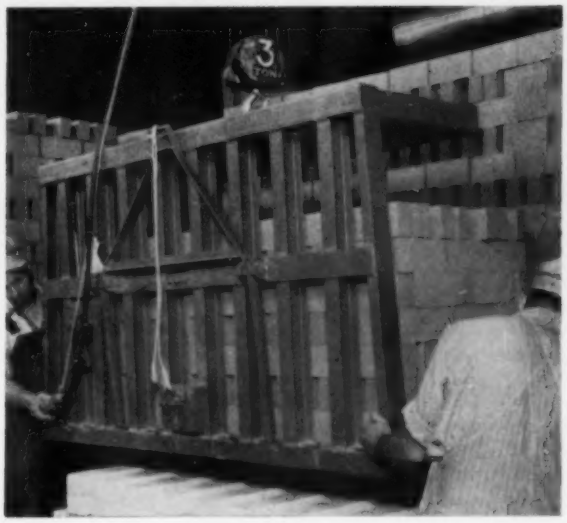
Complete Information on Request

SPECIALISTS IN AUGER TYPE DRILLS

PARIS MANUFACTURING COMPANY

PARIS, ILLINOIS

Make Brick Handling Easy...

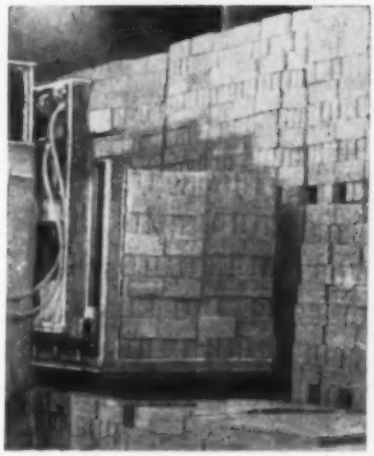


PRIESTER Brick Forks

- **Save Time**
- **Save Money**
- **Save Labor**

Also Priester truck cranes for unloading from delivery trucks. Write for bulletin.

Brick in units of any size are handled by Priester Brick Forks. Automatic operation simplifies and speeds brick handling setting and drawing kilns, loading and unloading trucks and box cars.



Forks with flap grippers for cored and solid brick. Give service . . . take the hard work out of brick handling. Write today for more information.

BRADNEY MACHINE CO., INC.

Middletown, New York

let the Rockfacer *

- Double the textures of brick you offer, without increasing inventory
- Turn your culls into No. 1 premium brick
- Save money on rockface costs over hand methods
- Increase mark-up with rockfaced texture, at negligible cost
- Get fast production — 2000 bricks per hour
- Produce another new product to sell — BRICK CHIPS for road or roof chat, at no cost to you

HUNDREDS OF BRICK PLANTS enthusiastically endorse "Rockfacer" (names furnished on request).

U. S. PATENT NO. 2,801,626 FOREIGN PATENTS PENDING

Send samples of your brick to be test-rockfaced for your inspection by. . .

ROCKFACER COMPANY

503 Hickory Tree Rd. (P. O. Box 547), Mesquite, Texas, Atlantic 5-6316

4 BIG REASONS

serve industry best

Hanco ELECTRIC SCREEN HEATERS

1. ELIMINATE BLINDING
2. INCREASE TONNAGE
3. BUILD GREATER PROFITS
4. SPEED PRODUCTION

PIONEERS IN ELECTRIC SCREEN HEATING

F. R. HANNON & SONS Hanco

1605 Waynesburg Rd. S.E., Canton 7, Ohio

Fast Service on "Ceramic" CHEMICALS and SUPPLIES

We maintain large stocks of the following oxides and other chemicals for the clay wares industries.

COBALT OXIDE	IRON CHROMITE
COBALT CARBONATE	ZINC OXIDE
CHROME OXIDE	COPPER OXIDE
MANGANESE DIOXIDE	COPPER CARBONATE
IRON OXIDES	FLUORSPAR
BARIUM CARBONATE	RUTILE
LEAD BISILICATE	

A more complete list will be sent upon request.

CERAMIC COLOR & CHEMICAL MFG. CO.

NEW BRIGHTON, PA., U. S. A.

Phone TIlden 6-4000 C-38

(*Continued from page* 58)

higher variable cost of sales of such other products, the operating profit would be $70,000 and the "Break-even Point"—$110,000.

Quantity of brick necessary to cover the "Break-even Point" would be: $110,000 ÷ $250 or 440,000 brick

—and sales of other products: 44% or $22,000

which can be substantiated by this different method of calculation:

After the "Break-even point" is covered, there are 560,000 brick and $28,000 sales of other products left from which to secure a profit:

This paper was selected as one of the top papers in the 1959 award contest for the best paper on any phase of refractory manufacture conducted by The Refractory Institute. Gold watches were presented to the authors of the three papers judged to be the best, including Seifriz at the Factory Operators Meeting of TRI held in Columbia, Mo. last spring.

560,000 *brick @ $200 per M*	$112,000	
Other Sales	28,000	
Sales from which to derive a Profit		$140,000
Less: 50% of Variable Cost of Sales		70,000
Profit from Operations		$ 70,000

Conclusion

The various calculations and analyses just made, shows the fruitful extent to which a Standard Cost System, based on Direct Costing, may be used. There are many other applications. The little effort that is required to establish the profit ratio and "break-even point" can be of the greatest help to management in

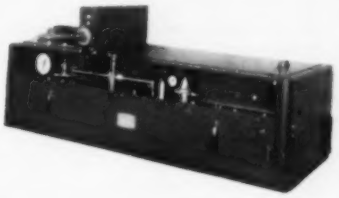
POSITIVE CONTROL OF MATERIALS IN MOTION BIF METERS FEEDERS CONTROLS

QUALITY CONTROL with TEAMED EQUIPMENT

cuts high costs, waste and rejects!

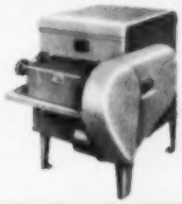
BIF *Omega* feeders proportion process materials ... continuously, automatically!

Quality control starts with proper equipment. Fully integrated equipment reduces waste, improves product quality, speeds production, and increases net profits. B-I-F offers the brick and clay industry a complete line of performance-proved feeders designed to maintain accurate reliability despite the most rugged service demands.



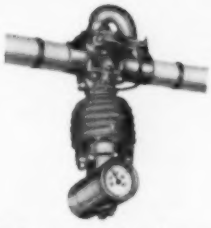
WEIGHS CLAY, PACES WATER FEEDER . . . Omega Pneu-Weigh, capacities to 3000#/min., precisely measures and controls flow of dry materials at varying rates . . . paces secondary flows of liquids, additives, conditioners. Extremely accurate (±½% of max. rate), compact, easy to operate, it offers many distinct design advantages. Request Bulletin 36-P1.

ASSURES POSITIVE MOISTURE CONTROL . . . Omega Rotodip, installed ahead of pug mill, feeds water to clay within desired limits. Capacities range from 5 GPH to 1800 GPH. Request Bulletin 65-H12B.



FEEDS ADDITIVES . . . Omega Disc Feeder provides volumetric feeding of coloring agents, body conditioners, deflocculents, binders and fluxes to a max. capacity of 1 cu. ft./hr. @ 50 lbs./cu. ft. within accuracies of ±3% by weight. Request Bulletin 50-K57A.

TOTALIZES OVEN GAS . . . Builders-Providence Shuntflo Meter gives exact accounting of gas to brick ovens. Completely self-contained and self-operated, it offers high accuracy (within ±2% of actual rate of flow), pressure compensation, low initial cost, low maintenance cost. Request Bulletin 400.20.



BIF

For free bulletins or complete data, write **B-I-F Industries, Inc., Industrial Sales, 407 Harris Ave., Providence 1, R. I.**

B-I-F INDUSTRIES

BUILDERS-PROVIDENCE · PROPORTIONEERS · OMEGA

NO Green Scum on Light-Face Brick

Thanks to
"MINERVA FLUORITE"
FLUORSPAR

YOU SELL MORE BRICK
INCREASE YOUR PROFITS
PROTECT YOUR REPUTATION
when You Control GREEN SCUM

"Minerva Fluorite" Fluorspar controls green scum in all light-faced brick. It is particularly needed where delicate color control makes hard firing and resulting vitrification objectionable.

Minerva Fluorite acts as a flux, vitrifies brick at low temperatures . . . prevents migration of vanadium and iron salts to surface of brick where it oxidizes to form green scum. Cost Less than 50c per ton of clay.

Write Today for Free sample of Minerva Fluorite for your own test firing and technical assistance of Minerva's consulting engineer.

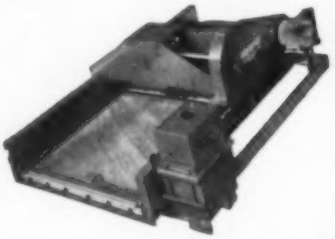
Dept. B-69

Please send full details and Free Fluorspar Sample.

Name .....
Firm Name .....
Address .....
City ..... State .....

MINERVA COMPANY
A DIVISION OF MINERVA OIL CO.
ELDORADO, ILLINOIS

Why the Leahy® Screen has Proven so Immensely Popular



Here are the reasons why the Leahy Screen has won such an enviable reputation for producing big volumes of accurately sized screened clays and shales.

1. It employs an exclusive differential vibration that snaps wedging particles loose 1600 times per minute.
2. Only the jacket is vibrated. The heavy screen frame is motionless. It is for containment purposes only.
3. FlexElex® jacket heating is fully integrated to operate at the highest possible efficiency.
4. There are no flexible connectors. The outboard transformer is connected to the jacket through current saving, trouble-free oversize bus bars.
5. Jacket changes require no breaking and remaking of electrical connections.

THE Leahy NO-BLIND VIBRATING SCREEN

— offers —
INTEGRATED HEAT SCREENING

No other screen offers all of these money-saving advantages. Send for Bulletin 16-EH.

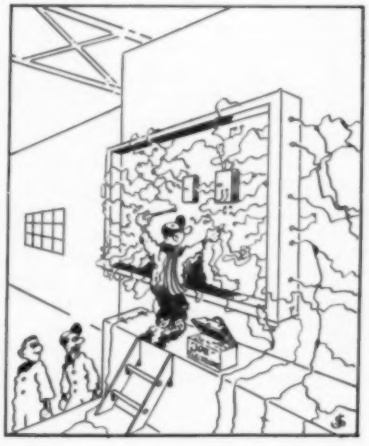
THE DEISTER CONCENTRATOR CO., INC.
The Original Deister Co., Est., 1906
913 GLASGOW AVENUE FORT WAYNE, INDIANA

giving answers to problems, such as:

1. Which is our most profitable brick?
2. Which is our least profitable brick?
3. On which brick and products are we losing money.
4. Under what conditions can we sell nonprofitable brick and still increase the profit?
5. How far can the selling price of a product be reduced and still yield a profit?

The system is readily adaptable to the nature and requirements of the fire brick industry. It is less expensive to install and easier to apply than other methods of cost accounting.

Also, the segregation of variable and fixed costs does not mean that the fixed costs should be accepted per se, and thereby escape future control. The fact that these costs are shown each month in a single amount should serve to emphasize their tremendous influence on the profit. A separately worked-out budget is a sound and invaluable means of keeping a watchful eye on these costs.



All of the employees chipped in to build a superintendent warning system.

Changes of Address

If you're due to change your address, be sure to avoid missing an issue of B&CR. Please notify us of your new address at least six weeks in advance of moving date. Write: BRICK & CLAY RECORD, 5 South Wabash Ave., Chicago 3, Ill. Be sure to give both old and new address, zone number, and your name.

BESSER Brickveyor

• The Besser Brickveyor is the modern way to position brick for the cubing operation. A brick cuber picks up 32 brick at a time and deposits them on Brickveyor in an upright position. Two variable speed belts automatically tip brick from vertical to horizontal position. Adjustable inclined gravity roller conveyor accumulates rows of brick for brick clamp handling at opposite end of Brickveyor. The brick clamp, interchangeable with block cubing clamp, assures fast, safe handling from Brickveyor to cube.

Brickmaking is profitable when you can make brick on a Vibrapac and cube them with the help of a Brickveyor. Handles up to 60,000 brick per day. Speeds up the job.

• Send for Bulletin No. 128 describing 4 ingenious ways of handling block or brick by power.

BESSER COMPANY • Complete Equipment for Concrete Block Plants • Alpena, Michigan, U. S. A.

put the *Erickson* "workhorse team" to work in *your* plant!

ERICKSON FK-60 FORK LIFT TRUCK

Here's the pair of Ericksons that have proven themselves the BACKBONE OF BLOCK PRODUCTION. Erickson's rugged dependability and long life have won its reputation as "the workhorse of lift trucks". Erickson trucks are custom-built to fit your needs.

OVER 1,000 BLOCK PLANTS cut costs with *Erickson*

ERICKSON AR-TIC-U-LATED PLATFORM TRUCK

The ideal truck for the block industry—equipped with Sideshifter, Triple Lift Mast and Cubing Forks. Ericksons have a proven 30-year record for low-cost handling of cubed blocks in the yard—stockpiling, loading and unloading delivery trucks.

A revolutionary new idea for speed and maneuverability handling heavy loads in close quarters. This new Erickson is AR-TIC-U-LATED—with a pivot between platform and drive wheels which gives the advantage of 4-wheel steering. Platform beds up to 15 feet long.

ERICKSON POWER LIFT TRUCKS, Inc.

269 St. Anthony Blvd. N. E. • Minneapolis 18, Minn.

NOW

100% AUTOMATIC MOISTURE CONTROL

EMC 703

In Your Pug Mill or Batch Mixer.

Over 90% of major West Coast Heavy Clay Products Plants are now using one or more EMC-703 Moisture Controls

Automatically holds desired moisture content; insures against product size variation; removes human error.

WALTER C. STOLL & SONS
5028 Alhambra Ave.
Los Angeles 32, Calif.
P. O. Box 32186

We're Drumming Up Business...

every Glazed Brick and Tile Producer needs

HOMMEL

the best in

FRITS and STAINS

- **GLAZE FRITS**—Lead bearing and leadless compositions for all types of glazed ware.
- **GLAZE STAINS**—Pastel and brilliant color shades with wide firing range and stability at high fires.
- **BODY STAINS**—Made to meet all requirements of your clay body. Guaranteed uniform color.
- **ENGOBE STAINS**—A complete palette for slip painting and all-over Engobe decorations.

"The World's Most Complete Ceramic Supplier"

THE O. HOMMEL CO.
DEPT. BCR-8-59 PITTSBURGH 30, PA.
WEST COAST—4747 E. 49th STREET, LOS ANGELES

Tufhorse KANT-RIP
MITTENS
HAND PADS
GLOVES

NO. 300

PROTECT WORKERS' HANDS!

HEAVY SPLIT-COWHIDE MITTEN NO. 300.
$12.60 PER DOZEN PAIRS.

Avoid costly injuries to the hands of your workers by giving them the protection they need—Tufhorse gloves, hand pads or mittens. Made of the finest cowhide, they are flexible and comfortable to wear.

ORDER SAMPLE PAIRS AT "PER-DOZEN" PRICES

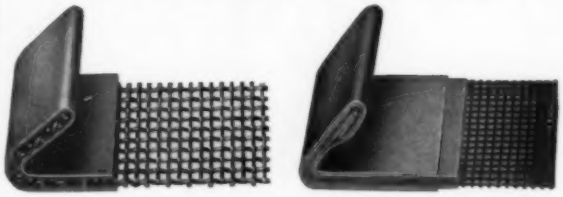
Please send me samples of
- ☐ Glove No. G-9 ($16.50 per doz. pairs)
- ☐ Mitten No. 300 ($12.60 per doz. pairs)
- ☐ Hand Pad No. 308 ($7.20 per doz. pairs)

(All F.O.B. Des Moines)

Name_____
Firm_____
Address_____
City_____ State_____

DES MOINES GLOVE & MFG. CO.
DES MOINES, IOWA

Tyler Screen Sections for All Makes of Screening Machines!



Screen sections of Tyler Woven Wire are fabricated for all makes of vibrating screens in any mesh or metal. They are made up with hook-strip or bent-edge construction to suit the machine on which they are to be used.

Tyler rugged, accurately-applied hook-strips make possible stretching and maintaining the screens at drum-head tension, which is essential for successful screening and long screen life.

THE W. S. TYLER COMPANY
CLEVELAND 14, OHIO
Manufacturers of Woven Wire Screens and Screening Machinery

Canadian Plant—St. Catharines, Ontario, Canada

CLASSIFIED ADVERTISEMENTS

Limited to Want Ads, Consulting Engineers, or Used Equipment ads, (wanted or For Sale)

TRANSIENT WORD ADS: 12c per word for each insertion.

Headings such as "Wanted", "For Sale", etc. and address to be counted as part of the ad. Minimum charge $2.00 each insertion.

POSITION WANTED ADS: $1.50 for 25 words or less; each add'l word 10c.

FOR USE OF BLIND ADDRESS: (Care of BRICK & CLAY RECORD) count as 15 words to cover cost of handling and forwarding replies.

DISPLAY-BOX TYPE ADS

$15.00 per inch. On advance orders for twelve consecutive issues, 12.00 per inch per insertion. (No retroactive adjustment).

An inch is measured vertically on one column, 2¼" wide; three columns on a page. For a two-column advertisement add together height in each column.

Display classified advertisements are set and rates apply in half-inch multiples. (1 inch minimum; 5 inch maximum).

Add 25% to above rates for Reverse Plate (white lettering on black background).

All rates based on payment in advance except on regular contract.

No Agency Commission or Cash Discount

BRICK and CLAY RECORD

5 South Wabash Avenue, Chicago 3

WANTED—HELP

One of the outstanding producers of heavy clay products in the Rocky Mtn. area is seeking the services of:

A man to take over the position of supt. of one of its 3 plants. Applicant must be productive rather than theoretical minded. Must know firing of R.D.D. kilns and be able to handle men.

Age and past record unimportant as there are so many potentially good men in the ceramic field who, like myself never had a chance to prove their ability until I started with the organization 2 years ago. Starting salary in five figures with bonus arrangement after 1 yr. Based on actual earnings of plant you manage. Successful applicant will be paid full expenses for interview but must be able to report for work not later than Sept. 15th. Write full details with 1 extra copy to Box 8-LGH, Brick & Clay Record.

Ceramic Engineer wanted in ceramic plant in Western Pennsylvania, Ohio and West Virginia area, who manufactures Steatite, Zirconia, Zircon, Magnesia, etc. Good chance to advance. Write Box 7-LCC, c/o Brick & Clay Record.

WANTED—Ceramic Engineer 25-45 yrs. old, for old established manufacturer in Ohio. Experience in heavy clay products desirable. Duties entail research and plant quality control with possible eventual position of Superintendent. Please give personal details and state salary requirement. Applications will be kept confidential. Address Box 8-JTM c/o Brick & Clay Record.

Ceramic Engineer—Old established company has opening for Ceramic Engineer with experience in steel plant refractories for sales and service in middle west steel plants. Salary and expenses. Car furnished. Replies confidential. Address Box 5-NWW care of Brick & Clay Record.

WANTED—HELP

Have interesting proposition for experienced man capable of building and operating brick plant. Would consider partnership. Bunker Hill Brick & Supply Co., Inc., 7620 Washington Ave., Houston 7, Texas

Master Mechanic in heavy clay products plant located in Virginia. Send complete resume including salary desired. Box -8NCC, Brick & Clay Record.

CERAMICS ENGINEER

A medium size ceramics manufacturer has a job opportunity for a young (35) ceramics engineer who has at least ten years experience in process and product development. This position requires an individual with managerial ability in terms of training eventually to become general production director. Initial renumeration would be in the $10,000 to $12,000.00 dollar range. Write Box 8-JTY, Brick & Clay Record.

Wanted—Plant Manager—Ceramic engineer with tunnel kiln experience. Face Brick Production. Plant located in St. Louis area. Write Box 8-EAH, Brick & Clay Record.

Wanted—Experienced individual for die control in plant manufacturing quality face brick and structural tile. Reply giving full particulars of qualifications, experience, etc., to Box 8-YAS, c/o Brick & Clay Record.

Wanted—Ceramic Engineer, 2 to 5 years experience in structural clay products. Duties include materials investigations and work on production problems. Will consider ample practical experience in place of degree. The Kelsey-Ferguson Brick Company, East Windsor Hill, Connecticut.

WANTED—Ceramic Engineer or experienced Plant Superintendent, preferably having brick plant experience. Please furnish references in replying; also salary requirements. Box 8-ZAN c/o Brick & Clay Record

WANTED—HELP

Ceramic Engineer in heavy clay products plant located in Virginia. Advancement to superintendent position possible. Send complete resume including salary desired. Box 8-ZAK, Brick & Clay Record.

WANTED—Ceramic Engineer wanted by large face brick manufacturer in Eastern U. S. to work on coatings, glazes, etc. Prefer man with 2-3 years experience. Good salary and conditions comensurate with experience and ability. Reply in confidence giving details of qualifications and experience etc. Reply to 8-KBD c/o Brick & Clay Record.

Mechanical Engineer—Midwest Sewer Pipe Manufacturer operating over 50 years needs qualified mechanical engineer. Please write giving all particulars. Box 8-ZAL, Brick & Clay Record.

Ceramic Engineer—Midwest Drain Tile Manufacturer operating over 50 years needs qualified ceramic engineer. Please write giving all particulars. Box 8—SDB, Brick & Clay Record.

ASSISTANT SUPERINTENDENT

Brick and Hollow Tile plant in Northeast U.S.A. 28-40 years of age. Ceramic Engineer. High volume production experience in modern tunnel kiln operation desireable. Must have extensive experience in handling men, quality control, maintenance of equipment. Send resume of experience and educational background with letter of application, stating reasons for leaving present position, family circumstances, salary needed, housing accommodations needed, and other pertinent information, to Box 8-NEF, c/o Brick & Clay Record.

POSITION WANTED

General Plant Superintendent, Ass't Manager or both. Have had 20 years experience in Red & Buff Brick. Rebuilt one plant. Was written up recently in Brick & Clay Record. References furnished. Have served as trouble shooter. Married—2 children, will move if offer is right. Box 8—8-VBD care of Brick & Clay Record.

CERAMIC ENGINEERS

Gladding, McBean & Co.

Challenging opportunities with nation's largest diversified ceramic manufacturer.

- **PRODUCT DEVELOPMENT & CONTROL**
  at our new 2 million dollar Refractories and Face Brick plant in Mica, Washington.
- **REFRACTORIES RESEARCH**
  Research and development in refractories and related products.
- **HIGH TEMPERATURE RESEARCH**
  Technical and nuclear missile application
- **PRODUCTION**
  Production management in whitewares

These positions require at least three years related experience.

Send complete resume or request application.

Direct replies to: **WILLIAM D. SMITH**
Gladding, McBean & Co.
2901 Los Feliz Blvd.
Los Angeles, Calif.

POSITION WANTED

POSITION WANTED—As temporary assignment by a graduate Ceramic and Mechanical Engineer with 20 years experience in plant design and lay out, raw material examination and investigation property mapping, drying, and combustion studies, crushing, grinding and classification, equipment specification, supervision of construction and operation, new product development, operations research and statistics, material handling and packaging engineering. Will submit detailed qualifications and renumeration schedule on request. Address Box 5-WAU, care of Brick & Clay Record.

Aggressive young executive desires position in sales management for ceramic manufacturer or related industry. Will submit detailed qualifications and remunerate schedule on request. Address Box 8-WAC, care of Brick & Clay Record.

WANTED—USED EQUIPMENT

WANTED—Used type 2BT F-R-H Drain Tile Cutter. 13½" Cut. Must be in first class condition. Chehalis Brick & Tile Co., Chehalis, Wash.

Wanted—Brick and tile machine, cutter and BOYD "X" Dry Press. Bill Taylor, Box 321, Sulphur Springs, Texas.

FOR SALE—USED EQUIPMENT

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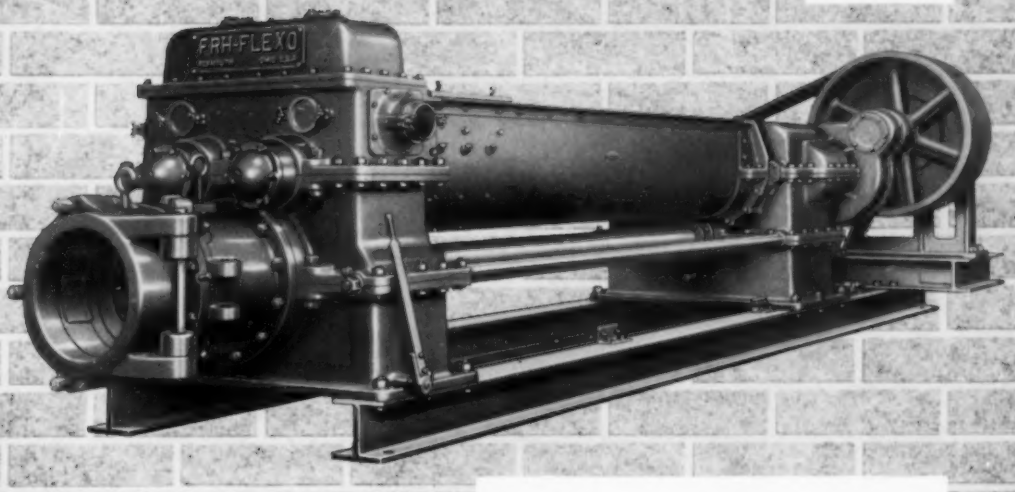

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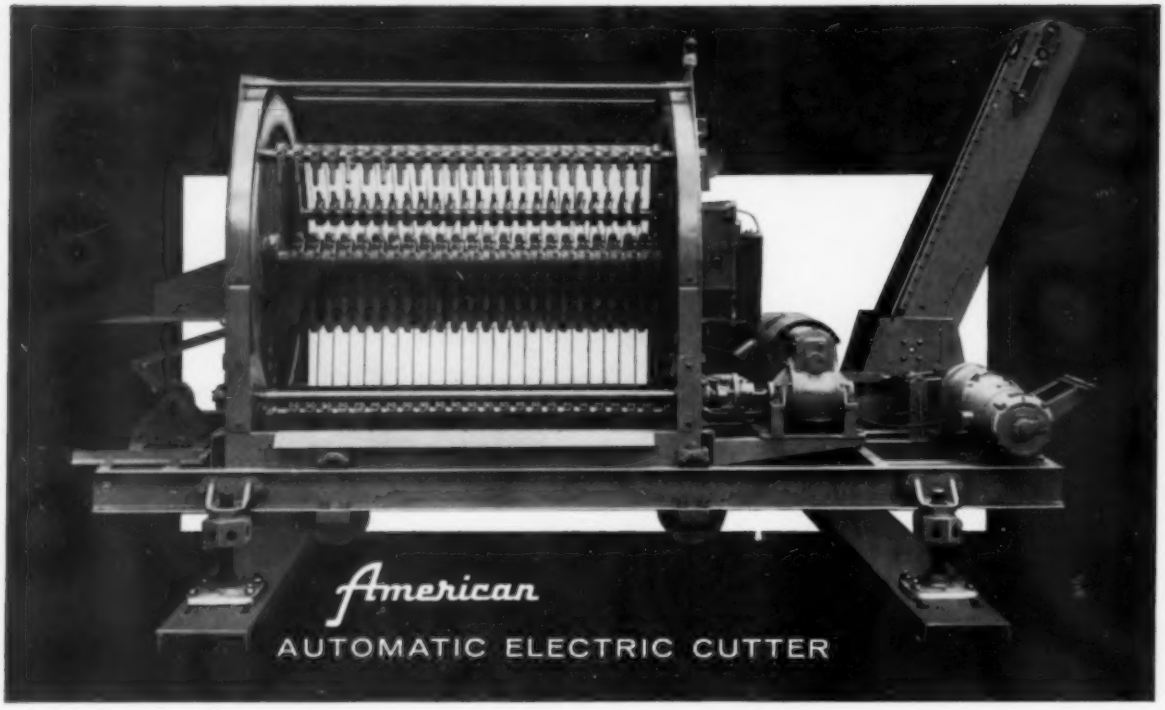

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